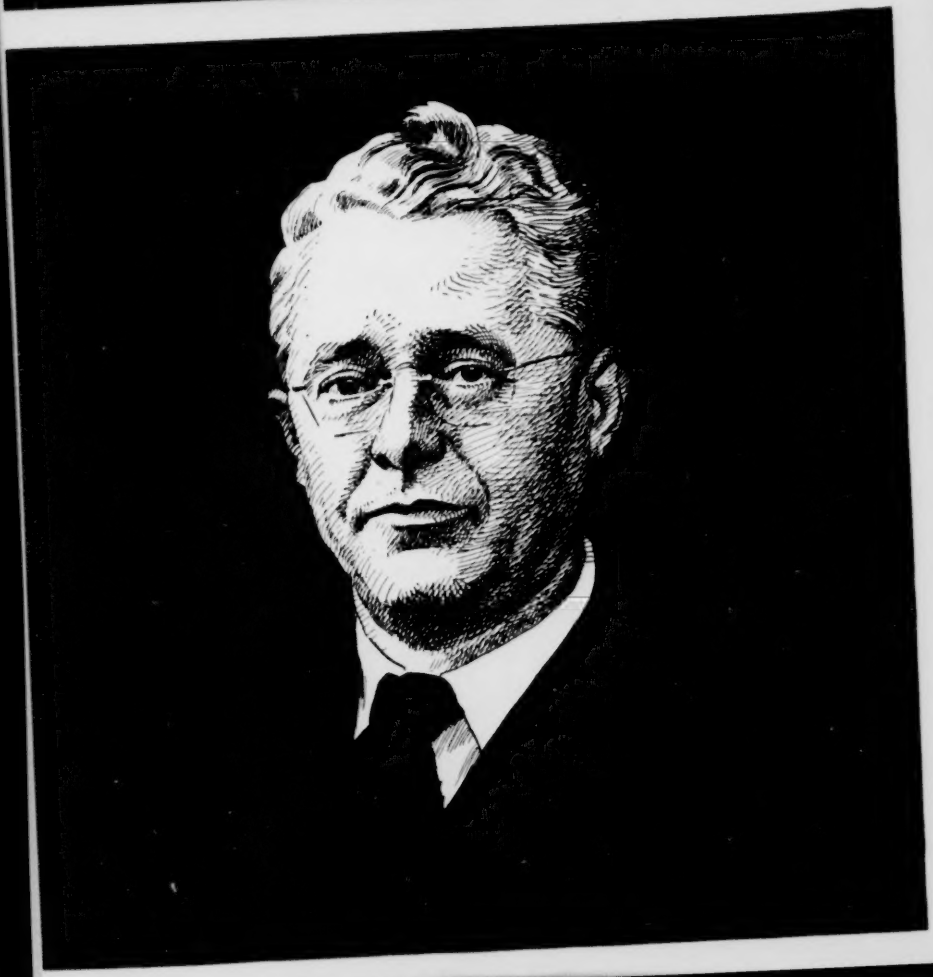
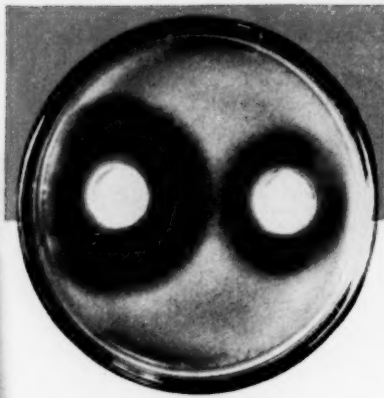
MODERN MEDICINE

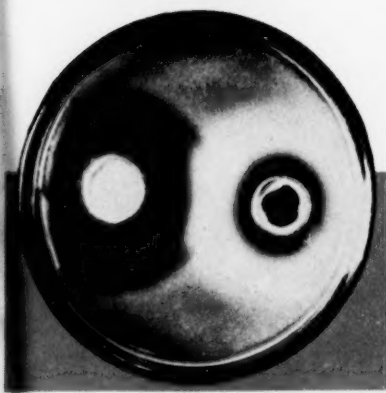




PANSULFA shows superior bacteriostatic action over the single sulfonamide (sulfadiazine).

Staph. aureus

The difference you see here...is the difference you can expect for patients



Staph. aureus

PANSULFA shows superior bacteriostatic action over a typical triple sulfonamide (sulfadiazine, sulfamerazine, sulfamethazine).

And Another Big Difference You Can Expect . . .
an easy mind about possible toxic effects . . . less danger of crystalluria or renal damage. Sulfacetamide is the least toxic sulfonamide reported in Lehr's clinical studies.*

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Sulfadiazine
Sulfamerazine

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Also PANSULFA with PENICILLIN Each tablet contains 100,000 units of Crystalline Penicillin Potassium G in addition to the above formula.

Merrell
1828

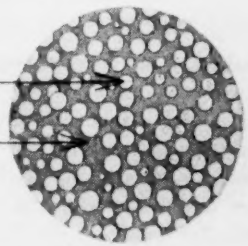
CINCINNATI
New York • Toronto

Trade-mark "Pansulfa"

*See Lehr, D., N. Y. St. J. Med. 11:1361, 1950

Q. **What is the advantage** of a discontinuous film of protection in baby skin care?

A. **The principal advantage** of the discontinuous film of protection is that it allows the infant's skin to "breathe" and function normally. This important feature of Johnson's Baby Lotion was achieved by creating an emulsion-type lotion consisting of droplets of oil homogeneously dispersed in water.



(Diagrammatic)

When this preparation is placed on the infant's skin, minute interstices—as shown in the accompanying diagram—are formed between the oil droplets by evaporation of the water phase of the emulsion. *Thus, a thin layer of the lotion forms a discontinuous film which affords protection but does not block the transpiration of water vapor, or interfere with other metabolic functions of the skin.*

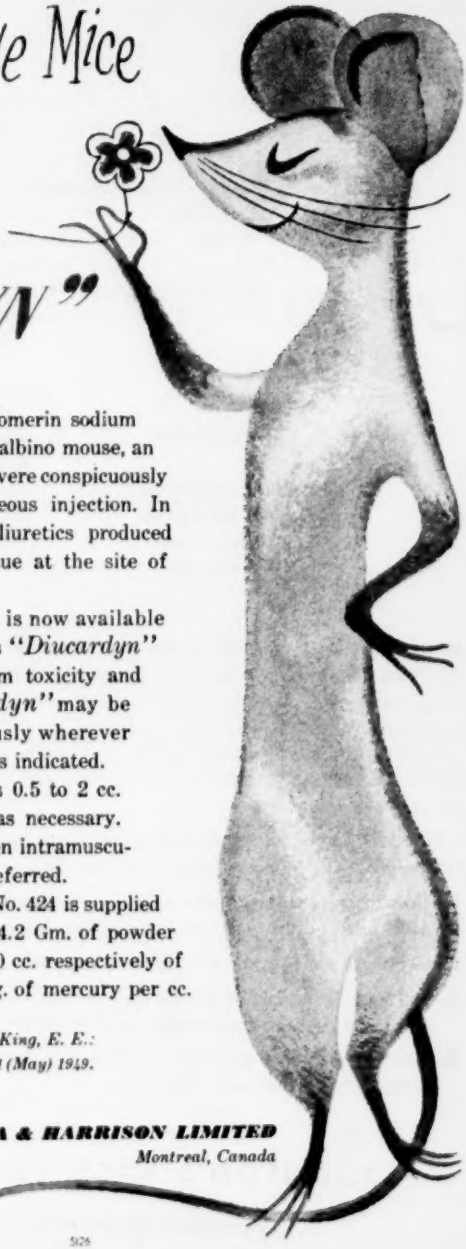
In addition to this important physiologic feature, Johnson's Baby Lotion has these distinct advantages:

1. Contains hexachlorophene (1%), an antiseptic that exerts prolonged suppression of the resident bacteria of the skin.
2. Contains no ingredients likely to sensitize the skin.
3. Possesses both prophylactic and therapeutic action against the most common skin affections of infancy.
4. Exerts powerful buffering action which neutralizes both excessive acidity and alkalinity.

JOHNSON'S BABY LOTION

Johnson & Johnson

Even Sensitive Mice Tolerate "DIUCARDYN"



It speaks well for mercaptomerin sodium that toxic reactions in the albino mouse, an especially sensitive animal, were conspicuously absent following subcutaneous injection. In contrast, other mercurial diuretics produced marked destruction of tissue at the site of injection.*

Mercaptomerin sodium is now available under the Ayerst label as *"Diucardyn"* Sodium. Virtually free from toxicity and local irritation, *"Diucardyn"* may be administered subcutaneously wherever mercurial diuretic therapy is indicated.

The suggested dosage is 0.5 to 2 cc. subcutaneously — repeated as necessary. *"Diucardyn"* may be given intramuscularly or intravenously, if preferred.

"Diucardyn" Sodium No. 424 is supplied in vials containing 1.4 and 4.2 Gm. of powder which will provide 10 and 30 cc. respectively of a solution containing 40 mg. of mercury per cc.

*Lehman, R. A., Taube, H., and King, E. E.: Proc. Soc. Exper. Biol. & Med. 71:1 (May) 1949.

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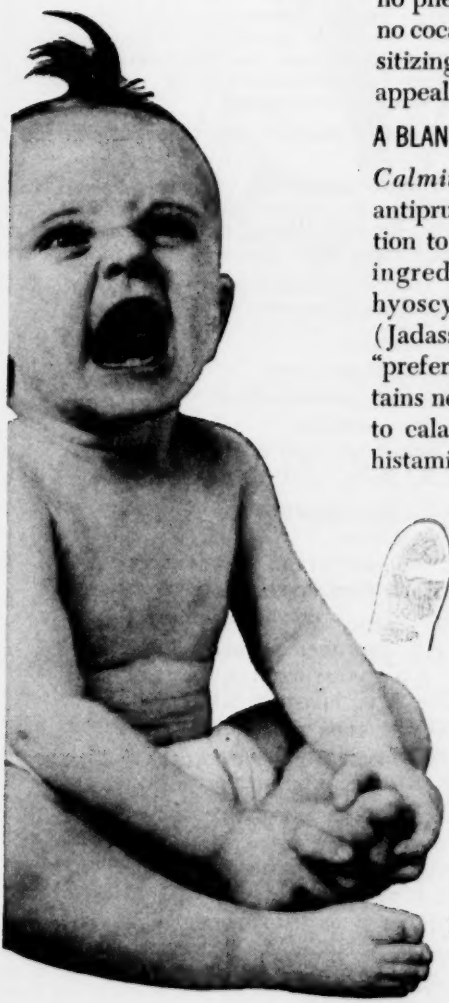
New York, N.Y. *Montreal, Canada*

526

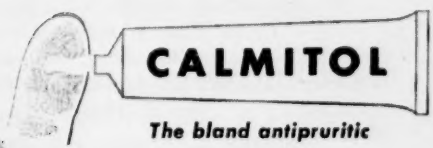
itching | handle with care



When the itching infant urgently needs relief, his tender skin must be "handled with care" and therefore—no phenol (as in calamine c̄ phenol), no cocaine, in fact no irritating or sensitizing agents. His loud and insistent appeal calls for

A BLAND AND EFFECTIVE RESPONSE

Calmitol Ointment affords potent, antipruritic control (in contradistinction to calamine[1]) through its active ingredients camphorated chloral, hyoscyamine oleate and menthol (Jadassohn's Formula). *Calmitol* is "preferred"[2] for safety because it contains no phenol[3] (in contradistinction to calamine c̄ phenol) and no antihistaminics or sensitizing agents.



The bland antipruritic

1. Goodman, Herman: J.A.M.A. 129:707, 1945.
2. Lubowe, I. I.: New York State Journal of Medicine 50:1743, 1950.
3. Underwood, G. B., Gaul, L. E., Collins, E., and Mosby M.: J.A.M.A. 130:249, 1946.

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THE JOURNAL OF DIAGNOSIS AND TREATMENT

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Werner states: "One can almost surely promise a climacteric patient relief from his symptoms, and a feeling of well-being, by treatment with the proper dosages of testosterone."[1]

Injections of Perandren facilitate rapid and sustained control of nervousness, fatigue, mood changes, decreased potency and the other common symptoms of failing gonadal function. 2/16781

1. Werner, A. A.: Postgraduate Medicine: 4:102 (Aug.) 1948

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Perandren® (brand of testosterone propionate)

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MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

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ABDEC DROPS contain, in each 0.6 cc. (10 minims): vitamin A, 5,000 units; vitamin D, 1,000 units; vitamin B_1, 1 mg.; vitamin B_2, 0.4 mg.; vitamin B_6, 1 mg.; pantothenic acid (as sodium salt), 2 mg.; nicotinamide, 5 mg.; vitamin C, 50 mg. Average daily dose: infants under one year—0.3 cc. (5 minims); older children—0.6 cc. (10 minims). Available in 15 cc. and 50 cc. bottles with graduated dropper.

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0.13 Gm. diethylmalonylurea

Dosage: Orally, as a sedative
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As a hypnotic
2 teaspoonfuls before retiring

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Sig: *To induce sleep and produce analgesia*
one dessertspoonful at bedtime.
For sedation and analgesia
One teaspoonful two or three times daily as required.

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The American Chemical Society, like Eli Lilly and Company, is now celebrating its seventy-fifth anniversary, and we pause to pay it tribute. Our own industry, as well as all of American progress and humanity, is deeply indebted to this esteemed group of scientists.

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for
September 15
1951

Modern Medicine
Vol. 19, No. 18

THE MAN ON THE COVER is Dr. Francis D. Murphy, Professor and Head of the Department of Medicine, Marquette University School of Medicine, Milwaukee. He is Chief of Staff at St. Joseph's Hospital and Clinical Director of the Milwaukee County Hospital. His work on Bright's disease won a Certificate of Honor from the American Medical Association. He is the author of *Dr. Murphy's Bedside Clinics; Diagnosis and Treatment of Acute Medical Disorders;* the section on Bright's disease in Tice's *Practice of Medicine;* and the yearly review on Bright's disease for the *Cyclopedia of Medicine.* "Acute Renal Insufficiency" on page 69 is based on an article of Dr. Murphy's in *Wisconsin Medical Journal.*

Contents for September 15 1951

CONTINUED

Contents for September 15 1951

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MODERN MEDICINE, The Journal of Medical Progress, of Minneapolis, Minn., is published twice monthly on the first and fifteenth of each month, at Hart Publications, Inc., of Long Prairie, Minn. Subscription rate: $5.00 a year, 25c a copy. Business Manager: H. E. Herz. Address editorial correspondence to 84 South 10th Street, Minneapolis 3, Minn. Telephone: Bridgeport 1291. ADVERTISING REPRESENTATIVES: New York 17: Lee Klemmer, George Doyle, Bernard A. Smiler, John Winter, 50 East 42nd Street, Suite 401. Telephone: Murray Hill 2-8717. CHICAGO 6: Jay H. Herz, 20 North Wacker Drive, Suite 1921. Telephone: Central 6-4619. SAN FRANCISCO 4: Duncan A. Scott & Co., Mills Bldg. Telephone: Garfield 1-7950. LOS ANGELES 5: Duncan A. Scott & Co., 2978 Wilshire Blvd. Telephone Dunkirk 8-4151.

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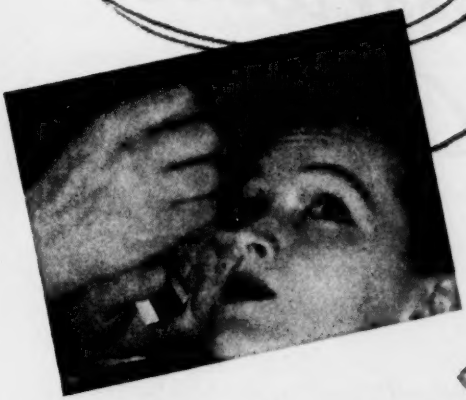

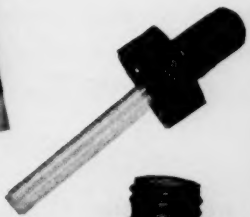

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codeine . . . .

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★ **no depressant effect** The 'Benzedrine' component counteracts the depressant side effects of codeine therapy. It actually lifts the patient's mood!

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FORMULA:	NOTE:
Codeine sulfate . . . . ¼ gr.	for ½ gr. codeine,
'Benzedrine' Sulfate . . 2.5 mg.	prescribe 2 tablets.
Acetylsalicylic acid . . 2.5 gr.	2 tablets per dose
Phenacetin . . . . . 2.5 gr.	

Smith, Kline & French Laboratories, Philadelphia

1. Long, C.F.: Indust. Med. 19:446 (September) 1950.

'Edrisal' & 'Benzedrine' T.M. Reg. U.S. Pat. Off.

LETTER FROM THE EDITOR

Dear Reader:

The October 1 issue of *Modern Medicine* will be devoted to the subject of Rheumatic Fever in Children. Dr. Arild E. Hansen, Professor and Chairman of the Department of Pediatrics, University of Texas, Medical Branch, Galveston, will be guest editor.

A few years ago there would not have been much use presenting a symposium on rheumatic fever. Besides keeping the sick child in bed and giving him salicylates and good hygienic care, there wasn't much a doctor could do.

Today the picture has changed and hope has come. Oftentimes now the severity and the destructiveness of the first attack can be lessened by ACTH and, highly important, subsequent attacks of infection can often be avoided, or they can be stopped before more damage is done to the heart.

Much can be done if the child can be given better hygienic conditions.

The problem is still a big one, in fact one of the biggest in medicine, and hence many readers of *Modern Medicine* will welcome the fine symposium that has been prepared for the October 1 issue—a symposium designed to bring to all physicians the latest information on the handling of children and adults with this dread disease of rheumatic fever.

Walter C. Alvarez

EDITOR-IN-CHIEF

The action of Butisol Sodium, which is derivative, pentobarbital, and the barbital"[1] makes it particularly prolonged sedation is desired,

nsomnia  daytime sedation 

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Capsules, 0.1 Gm. (1-1/2 gr.), lavender 

1. *New and Nonofficial Remedies, Council on Pharmacy and Chemistry, A.M.A., J. B. Lippincott*, 1949, pp. 456-457 **SAMPLES ON REQUEST**

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peptic ulcer,

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Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10 St., Minneapolis 3, Minn.*

Injections and Poliomyelitis

TO THE EDITORS: Articles have recently appeared in medical journals suggesting the possibility that poliomyelitis may be transmitted by syringe and needle inoculations. When so many injections of liver, vitamins, hormones, and other substances are being given, it would be well to consider the possibility of transmitting polio, influenza, and other virus diseases in this manner.

Ordinarily, sterilization does not kill viruses. Nothing short of thirty minutes of autoclaving suffices. In hospitals, this is done routinely. In private practice, autoclaving can be done in a small pressure cooker if a regular autoclave is not available.

By having enough syringes and needles to meet the needs of a whole day, one autoclaving a day is sufficient.

MALFORD W. THEWLIS, M.D.
Wakefield, R. I.

Painless Suture Removal

TO THE EDITORS: Every postoperative day should, relatively speaking, be a happy one. However, the average patient has been forewarned as to the effects of the anesthetic, gas pains, and removal of clamps or sutures to such a point that it is difficult to calm him.

The painless removal of stitches, I believe, can be accomplished with almost the same orders as given preoperatively—sedation, plus morphine, half an hour before removal of sutures. The patient knows he will get relief with a hypo and that helps, too.

LEO L. ROSEMAN, M.D.
Champaign, Ill.

Wrong Man

TO THE EDITORS: On page 88 of *Modern Medicine,* July 15, 1951, is a picture of a golfer stated to be me. I am most certain you are mistaken, unless I have become more distinguished in appearance in the past few months. My apologies to whoever it was whose picture was published.

HAROLD T. SARGIS, M.D.
Lakewood, Ohio

► TO THE EDITORS: This is to inform you that I did not win the Will Walter Trophy or the AMGA Championship, but that the sylphlike figure on page 88 of *Modern Medicine* is none other than mine.

JOHN A. TAYLOR, M.D.
New York City

¶Our apologies to Dr. Taylor and to AMGA Champion Sargis for the mistaken identification.—Ed.

A New Proven Coalition of Hemopoietic Factors..

STRIKES AT THE ENTIRE ANEMIA SYNDROME!

Hemopoietic efficiency is now known to be dependent on the interrelated actions of numerous factors—many heretofore unidentified with normal blood formation.

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Heptuna plus

1. Bio-Chem. Rev., 3/50, p. 11.
2. Monier-Williams, G. W.: Trace Elements in Food, 1949, p. 2.
3. Monier-Williams, G. W.: Trace Elements in Food, 1949, pp. 107-108.
4. Wintrobe, M. W.: Clin. Hematology, 6/47, p. 97.

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Each Capsule Contains:

Ferrous Sulfate U.S.P.	**4.5 gr.**	Cobalt	0.1 mg.
Vitamin B_{12}	**2 mcg.**	Copper	1 mg.
Folic Acid	**0.85 mg.**	Molybdenum	0.2 mg.
Vitamin A	5000 U.S.P. Units	Calcium	66 mg.
Vitamin D	500 U.S.P. Units	Iodine	0.05 mg.
Vitamin B_1	2 mg.	Manganese	0.033 mg.
Vitamin B_2	2 mg.	Magnesium	2 mg.
Vitamin B_6	0.1 mg.	Phosphorus	51 mg.
Niacinamide	10 mg.	Potassium	1.7 mg.
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Therapy of Ecchymosis

TO THE EDITORS: Several years ago a 65-year-old woman suddenly developed a marked weakness in both legs, with some paresthesia. She had had moderately high hypertension for years and presented evidence of mild capillary hemorrhage of the brain involving the central fissure in the median line. At the very same time a marked subconjunctival hemorrhage developed in the temporal part of the left eye.

I prescribed bed rest and had her take 6 Rutol tablets (60 mg. of rutin and 300 mg. of ascorbic acid in each tablet) along with 300 mg. of vitamin E each day. The subconjunctival hemorrhage cleared in four days and her other symptoms also disappeared in the same length of time. The blood pressure was not lowered. Under ordinary circumstances, a subconjunctival hemorrhage usually takes three weeks to clear.

Since that time I have given the same medication to numerous patients with ecchymoses of either traumatic or surgical origin. The results have been uniformly gratifying in that the black and blue marks disappear within four days to one week. I have found this therapeutic combination especially useful in causing the rapid removal of ecchymoses after nasal plastic surgery. In cases of traumatic bruising of muscles and fascia, the pain and discomfort are relieved to a large extent within thirty-six hours.

When swelling of the face, lips, jaws, or eyes appears after an injury, the combination has proved to be of great value in removing the edema in sixteen hours or, in some cases, slightly longer.

MAURICE VAISBERG, M.D.
Miami Beach

Prothrombin Determinations

TO THE EDITORS: After studying your discussion of prothrombin concentration in *Modern Medicine* (June 15, 1951, p. 50), I am still confused. I have seen a number of other graphs just like the one published and have never understood what they mean.

From the graph it would appear that the "percent prothrombin concentration" is determined by chemical means and correlated with the prothrombin time as determined by the Quick technic. If this is so, the situation would be clarified. However, I have never heard of any such chemical method of determination.

To illustrate my point, on the graph published, 14.5 seconds equals 100%; 14.8 seconds, however, equals 75 to 80%. It seems to me that, by the Quick method, a prothrombin time of 14.8 seconds would equal about 98%. Is there some other means of determining prothrombin content which shows that when the prothrombin time, as determined by the Quick method, is 14.8 seconds, the actual prothrombin concentration in milligrams per cent is only 75 to 80% of what it should normally be?

Allow me to voice a plea for a standard thromboplastin, which I believe is possible.

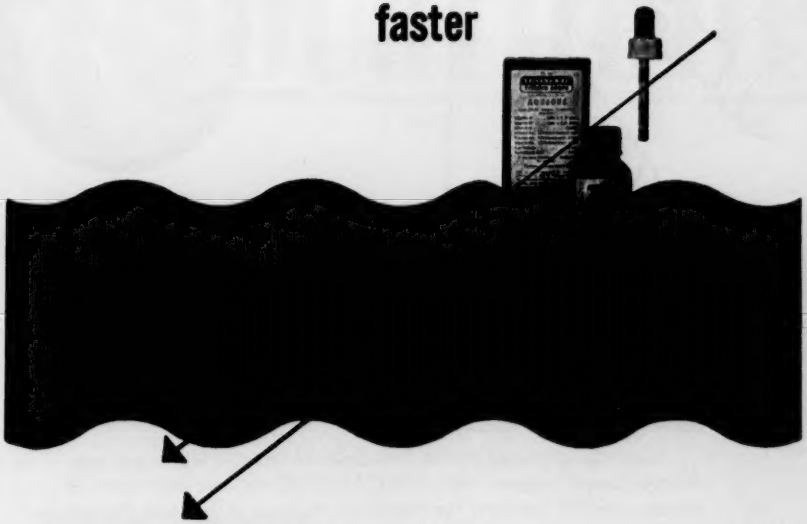
BELTON G. GRIFFIN, M.D.
Praco, Ala.

► TO THE EDITORS: Your consultant's answer on prothrombin concentration figures seems to me to be a very inadequate reply to a very important question.

In a case of mine, the different methods of figuring the prothrombin

(Continued on page 32)

water gets the oil there faster



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500% GREATER ABSORPTION
85% HIGHER LIVER STORAGE
1/5th AS MUCH EXCRETION

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VITAMIN D (natural)	1,000 units
ASCORBIC ACID	50 mg.
THIAMINE	1 mg.
NIACINAMIDE	5 mg.
RIBOFLAVIN	.4 mg.
PYRIDOXINE	.1 mg.
PANTOTHENIC ACID	2 mg.

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Announced at the 41st Annual Meeting of the **American Society for Pharmacology and Experimental** Therapeutics, **MYOCARDONE** marks another important advancement in the search for the hormonal control of cardiac function.

Carefully controlled clinical investigations reported in a recent issue of the Journal-Lancet suggest that MYOCARDONE—a new derivative of heart muscle—notably improves the functional efficiency of the heart through cardiotonic and vasodilator actions.

The most recent study[1] involved a group of 58 patients with various cardiac disturbances including:

Cardiac Decompensation—24 patients with dyspnea, dependent edema, pulmonary congestion, orthopnea and hepatomegaly.

Results with MYOCARDONE: More than half showed definite improvement.

Angina Pectoris—19 patients with precordial pain aggravated by exertion and emotional tension.

Results with MYOCARDONE: "10 showed definite and 3 moderate improvement."[1]

Hypertension Without Decompensation—10 patients with symptoms due to hypertension (dizziness, headaches, throbbing, visual disturbance):

Results with MYOCARDONE: "... 6 of the 10 enjoyed relief of the distressing symptoms when taking MYOCARDONE ..."[1]

Compensated Arteriosclerotic Heart Disease—5 patients who had compensated on routine management.

Results with MYOCARDONE: "Three (60%) of the compensated arteriosclerotics maintained compensation with the extract (MYOCARDONE) alone ..."[1]

lore Dependable Cardiac Therapy

Myocardone

This report further emphasized:

PROVEN EFFICACY

When MYOCARDONE was administered " . . . Improvement consisted of increased capacity for exertion, decrease or disappearance of symptoms requiring nitroglycerin in the anginal cases, and in disappearance of orthopnea, pulmonary congestion and edema in the decompensated cases."[2]

GREATER SAFETY

"There were virtually no side effects."
"All patients tolerated the drug well."[2]

PROLONGED RESULTS

"Patients whose response to MYOCARDONE was satisfactory, continued to do well for from 2 weeks to several months after the drug was withheld."[2]

Digitalis–Nitrite Replacement

MYOCARDONE advantageously replaces or supplements digitalis therapy. It reduces or eliminates the need for nitrites in angina pectoris.

1. Steigmann, F.; Weiss, A., and Feldman, D.: Clinical Observations on the Efficacy of a Heart Muscle Extract in the Treatment of Cardiovascular Diseases, Federation Proceedings, Vol. 10, p. 429, March, 1951. Reported at the Forty-first Annual Meeting of the American Society for Pharmacology and Experimental Therapeutics.

2. Weiss, A., and Feldman, D.: A Heart Muscle Extract in the Treatment of Cardiovascular Diseases, Journal-Lancet (Aug.) 1951, pp. 320-322.

LITERATURE ON REQUEST

Chemico LABORATORIES, INC.
Indianapolis 20, Indiana

time resulted in a real prothrombin time of 15% when it had been reported to me as 30% of normal. By the time I saw the patient two days later she had a prothrombin time of 0.05% with marked hematuria which necessitated blood transfusions and hospitalization. This was not due to differences in batches of thromboplastin but simply to the way it was figured. One laboratory used the factor 8.7, and the other did not.

Hereafter, only "seconds" of control and patient will be accepted by me and I will do my own figuring, but the laboratories certainly should get together on the method of reporting to avoid such errors.

ESTHER S. NELSON, M.D.
South Pasadena, Calif.

¶We submitted the problems presented in the letters from Drs. Griffin and Nelson to our Consultant in Internal Medicine who sent us the additional information printed below.—Ed.

► TO THE EDITORS: It is true that there is no chemical method for determining prothrombin. The determination of prothrombin time is performed by adding an excess of thromboplastin and calcium chloride to oxalated plasma and timing the formation of the clot. Since calcium is present in the required amount and thromboplastin is added in excess, the limiting factor in the formation of the clot is the concentration of prothrombin.

The 100% value is determined by utilizing normal control serum and measuring the clotting time in seconds. If the latter is 12 seconds, the graph of such a determination will indicate 12 seconds as the 100% value. This plasma is diluted with

- *wide spectrum of antibacterial action*
- *additive and possibly synergistic antibacterial potency*
- *markedly greater safety in systemic sulfonamide therapy*
- *apparent reduction in hypersensitive reactions*
- *less possibility of development of drug-resistant organisms*

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Excellent flavor, convenience and economy for the patient.

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.167 Gm. Sulfamerazine
.167 Gm. Sulfacetimide—the sulfonamide of choice for the third component.

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normal saline (other diluents have been used but are not as accurate according to Quick) to yield concentrations between 10 and 100%. The prothrombin times of these concentrations are likewise determined and plotted as number of seconds against concentration.

It is unfortunate that the resulting curve is not linear but hyperbolic in nature, since this has been the chief source of confusion. However, this curve is not an artifact and can be reproduced. The curve can also be satisfactorily expressed by an equation. It is immediately apparent that one cannot determine the prothrombin concentration by dividing the prothrombin time of the normal control by the prothrombin time of the patient being tested. The prothrombin concentration can be determined only from a previously prepared graph by the method indicated.

From the clinical point of view the desired concentration of prothrombin in the prophylaxis and treatment of thromboembolic phenomenon should be between 10 and 30%, preferably about 20%. The prothrombin time is elevated by administration of heparin. Thus, the prothrombin concentration cannot be determined from the prothrombin time when the patient is also receiving heparin.

The physician cannot depend upon the laboratory report in seconds alone, without knowing the control value, since batches of thromboplastin differ in various laboratories. Laboratories which report normal control prothrombin times as high as 18 to 20 seconds are carrying out the test inaccurately. This is likewise true of laboratories which are not preparing curves of pro-

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Ocular fundus showing tortuous, engorged capillaries, areas of transudation and hemorrhage, and papilledema.

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ANTACID TABLETS

thrombin time at various prothrombin concentrations.

It behooves every physician to become acquainted with laboratory procedures, their interpretations and limitations, to prevent errors in diagnosis and treatment.

Teamwork on Alcoholism

TO THE EDITORS: I have read with a great deal of interest the letter from Dr. K. R. Beutener on the treatment of alcoholism (*Modern Medicine,* Aug. 1, 1951, p. 18).

There's no doubt that the problem of alcoholism should be faced with greater force and reality than it is at present. The chronic alcoholic must be looked upon as a sick individual and, if a good and lasting cure is to be realized, institutional care of some kind is almost always necessary.

Every case should be reviewed by a team made up of a psychiatrist, internist, chaplain, social service worker, and rehabilitation counselor. After this team has completely studied the case, a weak link in the alcoholic cycle may be discovered that will be vulnerable to vigorous attack by one or more members of the team.

To help the sick alcoholic back to a normal life is the duty and responsibility of the medical profession and the community.

JOHN B. ANDOSCA, M.D.

Boston

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CONSTIPATED PATIENT...

Laxative ACTION WITHOUT REACTION

Phospho-Soda (Fleet) has long been authoritatively recognized for its dependable efficacy and desirable qualities in the treatment of intestinal stasis. In average doses, it produces a soft and formed, rather than a watery, evacuation; and its gentle action is quite free from irritation, griping, early tendency toward habituation, or other adverse reactions.

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Rub A-535's combination of time-proven ingredients, in a modern non-greasy, stainless, vanishing base facilitates rapid analgesic and counter-irritant action in the symptomatic treatment of a wide range of musculo-skeletal conditions.

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100 mg., bottles of 25 and 100;
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Ophthalmic Ointment, Ophthalmic Solution.

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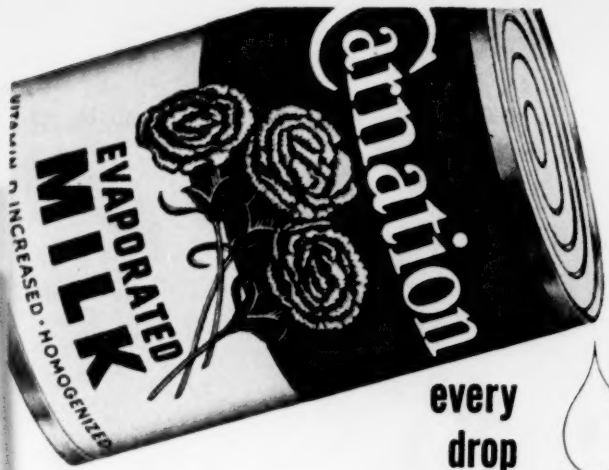

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Orally administered, Erythrol Tetranitrate Merck lessens the muscular tone of arteries, tending to decrease the effect of blood pressure on the arterial walls and thereby relieving the burden on the heart.

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Literature mailed on request.

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Protein	12.5 Gm.	15.8 Gm.
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Carbohydrate	16.2 Gm.	25.5 Gm.
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*Egg-nog nutritive values from Bowes, A. de P., and Church, C. F.: Food Values of Portions Commonly Used. Philadelphia, 1944; fifth edition.

NOTE THESE MERITENE EXTRAS:

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EASY TO PREPARE . . . TASTES GOOD

SUPPLIED: In 1-lb. cans, plain or chocolate flavor, retailing at $1.65 per pound. Also in 5-lb. economy-size cans.

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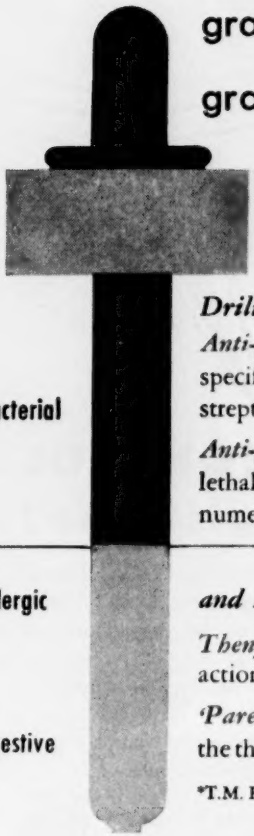
this nose-drop destroys both gram-positive and gram-negative bacteria



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Drilitol contains:

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Anti-gram positive gramicidin—
specific against such organisms as staphylococci, streptococci, pneumococci and diphtheroids.

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lethal to the Klebsiella, H. influenzae and numerous other potentially dangerous pathogens.

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'Paredrine' Hydrobromide*—vasoconstriction for the therapeutic benefits of ventilation and drainage.

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CONSTIPATION CONTROL
. . . at a physiologic pace!

At no time over-violent...at no time lagging either—but, at an *effective physiologic* pace, proceeds the intestinal bulk formed by Konsyl or L. A. Formula. These two gelatinous-residue builders bind just enough moisture to lubricate and plasticize the stools, not enough to cause violent flushing. Normal peristalsis is thus resumed, and defecation reflex re-initiated—without griping, cramping or tenesmus.

Alike in providing physiologically correct constipation control, Konsyl and L. A. Formula *differ* in the patient groups they best serve:

KONSYL ***(100% plantago ovata coating—the first and original psyllium preparation).*** Konsyl supplies effective bulk and lubrication, without added carbohydrates. Indicated in diabetes, obesity or any other low-carbohydrate diet or, wherever a pure psyllium preparation is preferred—as in postoperative care following hemorrhoidectomy. Non-irritant, non-habit-forming. Available in 6 and 12 oz. cans.

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An Effective New Combination: ORGANIDIN® + EPHEDRINE + PHENOBARBITAL

For Non-Narcotic Relief of Respiratory Congestion!

IN: MILD ASTHMA · ALLERGIC SEIZURES · CHEST COLDS · TRACHEITIS · BRONCHITIS · HAY FEVER

For the Patient With Respiratory Congestion, SEDORZYL (Wampole) provides prolonged, satisfactory relief and unobstructed breathing through its unique alliance of ORGANIDIN® (iodine organically combined by reaction with glycerin), EPHEDRINE and PHENOBARBITAL.

LIQUEFYING EXPECTORANT

As recently pointed out,[1] the "Iodides are among the oldest, time-honored remedies" for asthma, producing a thin bronchial secretion which modifies and loosens characteristically tenacious and highly viscous mucus obstructing the air passages.

In the SEDORZYL formula iodine is present in an exceptionally well tolerated form as ORGANIDIN (Wampole), representing ¼ grain of this expectorant halogen (organically combined by reaction with glycerin) per 5-cc. teaspoonful of the new respiratory decongestant.

IMPROVED RESPIRATION

Ephedrine, as Goodman and Gilman note,[2] "Influences respiration in two ways, by dilating the bronchioles . . . and by a direct stimulation of the respiratory center . . . Even in normal subjects . . . ephedrine increased respiratory minute volume by about 20 per cent."

Each 5-cc. teaspoonful of SEDORZYL provides ¼ grain of ephedrine sulfate.

MILD SEDATION

The expectorant, bronchodilating, and respiratory stimulant elements of the SEDORZYL formula are complemented and balanced by a small amount of phenobarbital (⅛ grain per 5-cc. teaspoonful) which assures comfort and offsets the side effects of ephedrine during prolonged decongestant therapy.

COMPOSITION

Each 5-cc. (teaspoonful) of SEDORZYL contains:

PHENOBARBITAL	⅛ grain
Warning: May be habit forming.	
ORGANIDIN®	10 minims
(Iodine organically combined by reaction with glycerin). 10 minims contains ¼ grain iodine.	
EPHEDRINE SULFATE	¼ grain
BENZYL ALCOHOL	1 minim
ALCOHOL	3.5%

DOSAGE

One teaspoonful of SEDORZYL is given initially every 2 to 4 hours. The dose interval is then lengthened. Children are given proportionately less.

SEDORZYL is supplied in 1-pint bottles.

Samples and Literature on Request

1. Feinberg, S. M., Malkiel, S., and Feinberg, A. R.: The Antihistamines. Year Book Publishers, 1950.

2. Goodman, L., and Gilman, A.: Pharmacological Basis of Therapeutics. Macmillan Co., 1941.

Nutritional Facts

about the First Ready-to-serve Rice Cereal for Baby

Gerber's Rice Cereal, the first hypo-allergenic starting cereal made of rice, contains no yeast, no malt, no milk solids.

Rice flour is combined with rice polishings, a rich source of natural vitamin B-complex. Crystalline thiamine, riboflavin, and niacinamide give further B-vitamin supplementation. Iron is also added.

Low in crude fiber and thoroughly pre-cooked, Gerber's Rice Cereal is easily digested by very young babies. Introduced at the recommendation of doctors themselves, it is still unsurpassed for quality and nutritional content at any price.

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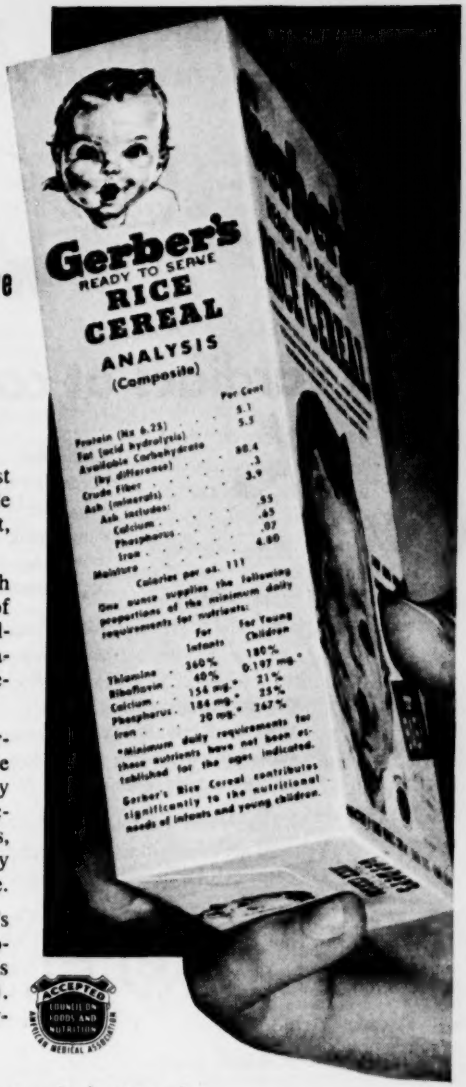

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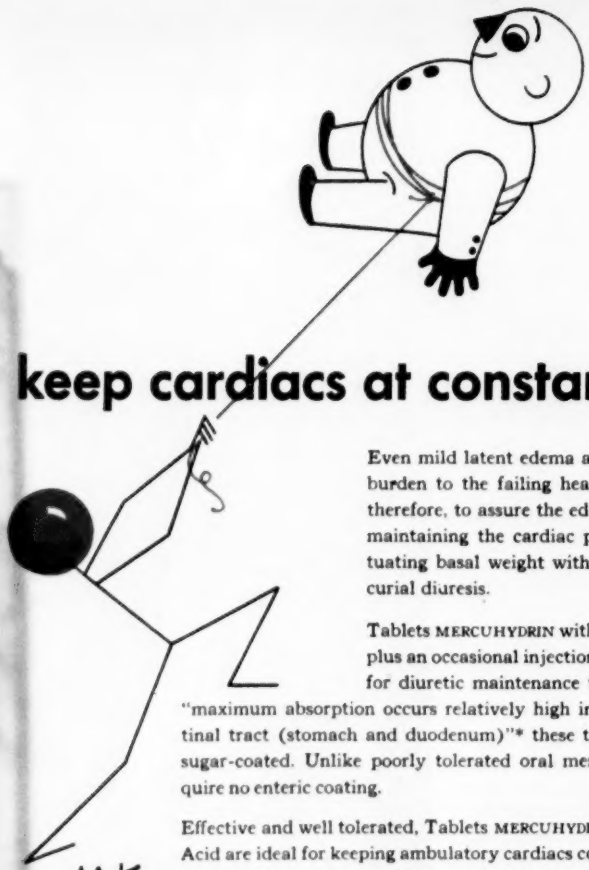

keep cardiacs at constant weight

Even mild latent edema adds a substantial burden to the failing heart. It is the best, therefore, to assure the edema-free state by maintaining the cardiac patient at unfluctuating basal weight with systematic mercurial diuresis.

Tablets MERCUHYDRIN with Ascorbic Acid—plus an occasional injection—are unexcelled for diuretic maintenance therapy. Because "maximum absorption occurs relatively high in the gastrointestinal tract (stomach and duodenum)"* these tablets are simple sugar-coated. Unlike poorly tolerated oral mercurials, they require no enteric coating.

Effective and well tolerated, Tablets MERCUHYDRIN with Ascorbic Acid are ideal for keeping ambulatory cardiacs consistently free of edema with a minimum of inconvenience to physician and patient.

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with Ascorbic Acid

(brand of meralluride)

Available in bottles of 100 simple sugar-coated tablets each containing meralluride 60 mg. (equivalent to 19.5 mg. of mercury) and ascorbic acid 100 mg.

*Overman, W. J.; Gordon, W. H., and Burch, G. E.: Tracer Studies of the Urinary Excretion of Radioactive Mercury following administration of a Mercurial Diuretic, Circulation *1*:496, 1950.

The simplest method of outpatient maintenance

Lakeside Laboratories, INC., MILWAUKEE 1, WISCONSIN

Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: A very masculine-appearing woman, 27 years old, avoids being seen with other women because of a phobia of being considered a male component of a female homosexual partnership. Desire for sexual activity, normal or abnormal, is absent but her desires are more masculine than feminine. Muscles and hips are of the masculine type. Breasts are well developed and normal. Hair distribution from waist down is completely masculine. Pelvic examination was very unsatisfactory as patient is a virgin, but external genitalia are normal. A flat plate of the abdomen revealed no soft tissue masses in the areas of the adrenal glands and pelvic organs. Basal metabolic test was minus 5. Results from a female hormone test of a 24-hour specimen of urine were: gonadotropins 31, total estrogens 17, total androgen 28, total 17-ketosteroids 19, pregnandiol 2.5. She is Jewish with a Slavic background, and there is a tendency toward hirsutism on her mother's side. What is the best treatment?

M.D., Oregon

ANSWER: *By Consultant in Gynecology.* The androgen and 17-ketosteroid levels, definitely higher than normal, would seem to indicate further studies to eliminate the possibility of pituitary or adrenal tumor. In addition to the flat plate of the abdomen, air injection to expose adrenal glands might be helpful. Conceivably, surgical exploration of the adrenal gland could be considered. Further pituitary gland studies might be done, since one picture may not eliminate the possibility of pituitary disease.

Then, too, ovarian tumor such as arrhenoblastoma may exist. The pelvic examination probably should be repeated under anesthesia. The basal metabolism test should also be repeated. Basal metabolism tests in single instances may be misleading because patients often need conditioning to the test.

If these studies are made, moderate doses of estrogen may be given in the first half of the patient's menstrual cycle, although one must always consider the possibility of disturbing the cycle by preventing ovulation with such treatment.

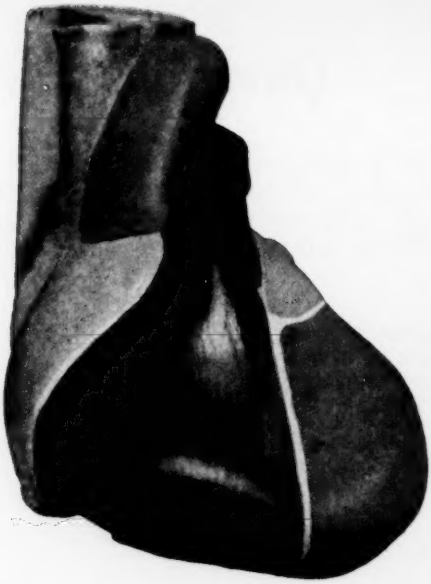
In the end, a diagnosis of hirsutism may have to be accepted in this case. Hirsutism is more common among brunettes than blonds and this patient is Jewish and Slavic. The treatment may be extensive electrolysis.

QUESTION: When is Antabuse contraindicated in treatment of chronic alcoholism?

M.D., Mississippi

ANSWER: *By Consultant in Neurology.* In treating chronic alcoholism, Antabuse is not recommended

(Continued on page 56)



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...with the double-salt Calpurate. The xanthine component of Calpurate is released gradually...all to the good of cardiac patients who require trouble-free, prolonged therapy.

There is little or no gastric irritation with Calpurate. Special coatings, as are necessary with preparations containing highly soluble theobromine salts to obviate gastric upsets, are not needed with Calpurate.

Digitalis may be given simultaneously with Calpurate, as there is no synergistic relationship between the calcium ion and the digitalis glycoside.

Calpurate does not contain the sodium ion.

in cardiac decompensation

whether edema is present or not, rapid improvement follows the myocardial stimulation with Calpurate.

in coronary disease

Calpurate, affording sustained coronary dilation, is a valuable aid in reducing the frequency and the severity of angina pectoris attacks. In thrombosis, when blood supply is equal to increased vigor of contraction, routine use of Calpurate augments blood supply and allays cardiac failure.

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Calpurate with Phenobarbital relieves stress, improves circulatory efficiency, and has a desirable sedative effect.

Calpurate (7½ gr.) tablets
Theobromine Calcium Gluconate, Maltbie

Calpurate (7½ gr.) with Phenobarbital (¼ gr.)

The double salt with the triple use

Maltbie Laboratories, Inc., Newark 1, New Jersey

for patients with myocardial failure or coronary disease, liver disease with less than 85% hepatic function, chronic or acute nephritis, epilepsy, goiter, diabetes mellitus, asthma, or disturbances of the hematopoietic system. Antabuse should not be given during pregnancy or to patients taking paraldehyde. If the dosage of Antabuse is too high or if too much alcohol is taken, acetaldehyde poisoning may occur and cause such symptoms as breathlessness, decreased pulse rate, ataxia, unconsciousness, and, occasionally, convulsions. These symptoms can be terminated promptly by Coramine or a combination of 95% oxygen and 5% carbon dioxide or pure oxygen.

QUESTION: Does the danger of exposing infants to poliomyelitis by administering usual immunizations during the summer months outweigh the threat of whooping cough, tetanus, diphtheria, and so on, in a populated urban community?

M.D., New York

ANSWER: *By Consultant in Pediatrics.* Some statistical evidence seems to indicate that if a child acquires poliomyelitis within a month after having had an injection, the disease is more likely to be paralytic and to affect the limb in which the injection was made. The evidence is not that the child is more likely to contract the disease.

Unless poliomyelitis is prevalent in the area, the risk of infection from other diseases such as whooping cough, diphtheria, and tetanus is probably greater than that of poliomyelitis, and the immunizations should be continued. If poliomyelitis is widespread in the locality, possibly immunization should be postponed until the number of new cases decreases, that is, until late fall.

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to a launching . . .

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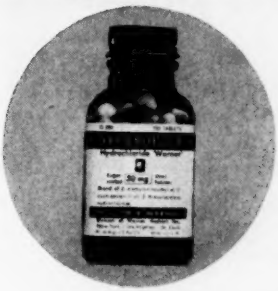

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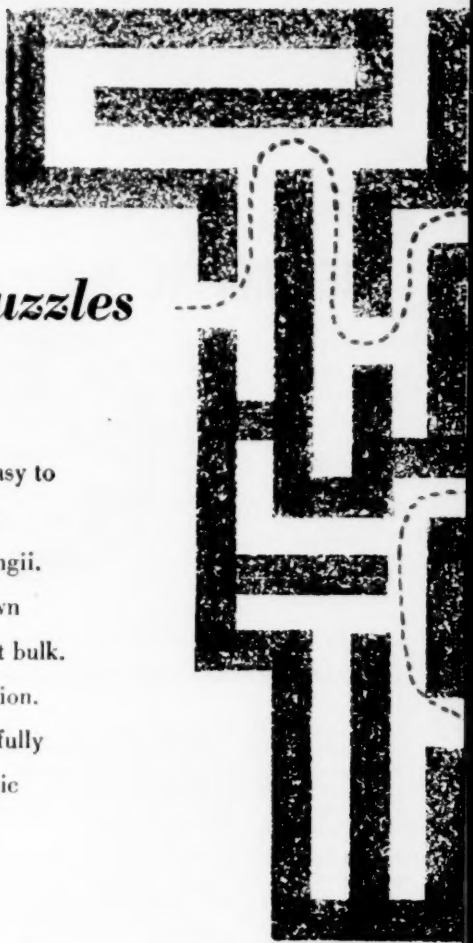

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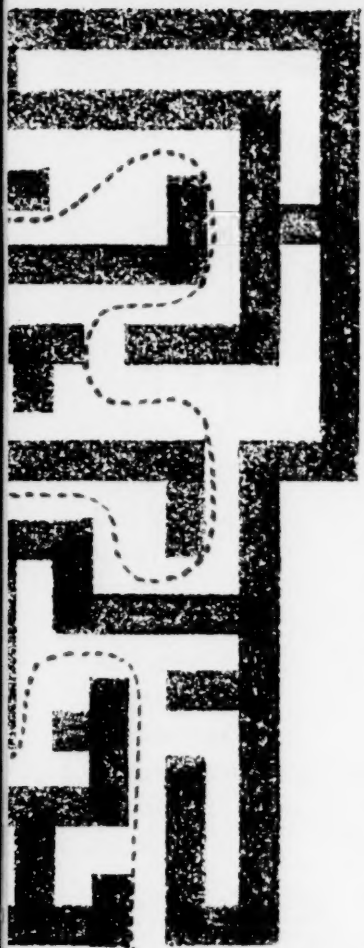

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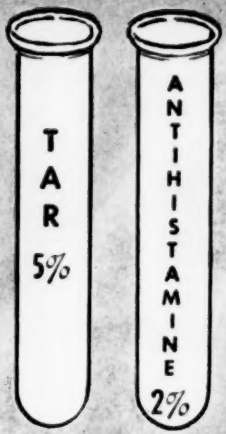

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*Walters, J. D. & Gilman, R. L.: A Combination of Tar and Antihistaminic For Local Use, *U. S. Armed Forces M. J.* 2:167 (Feb.) 1951.

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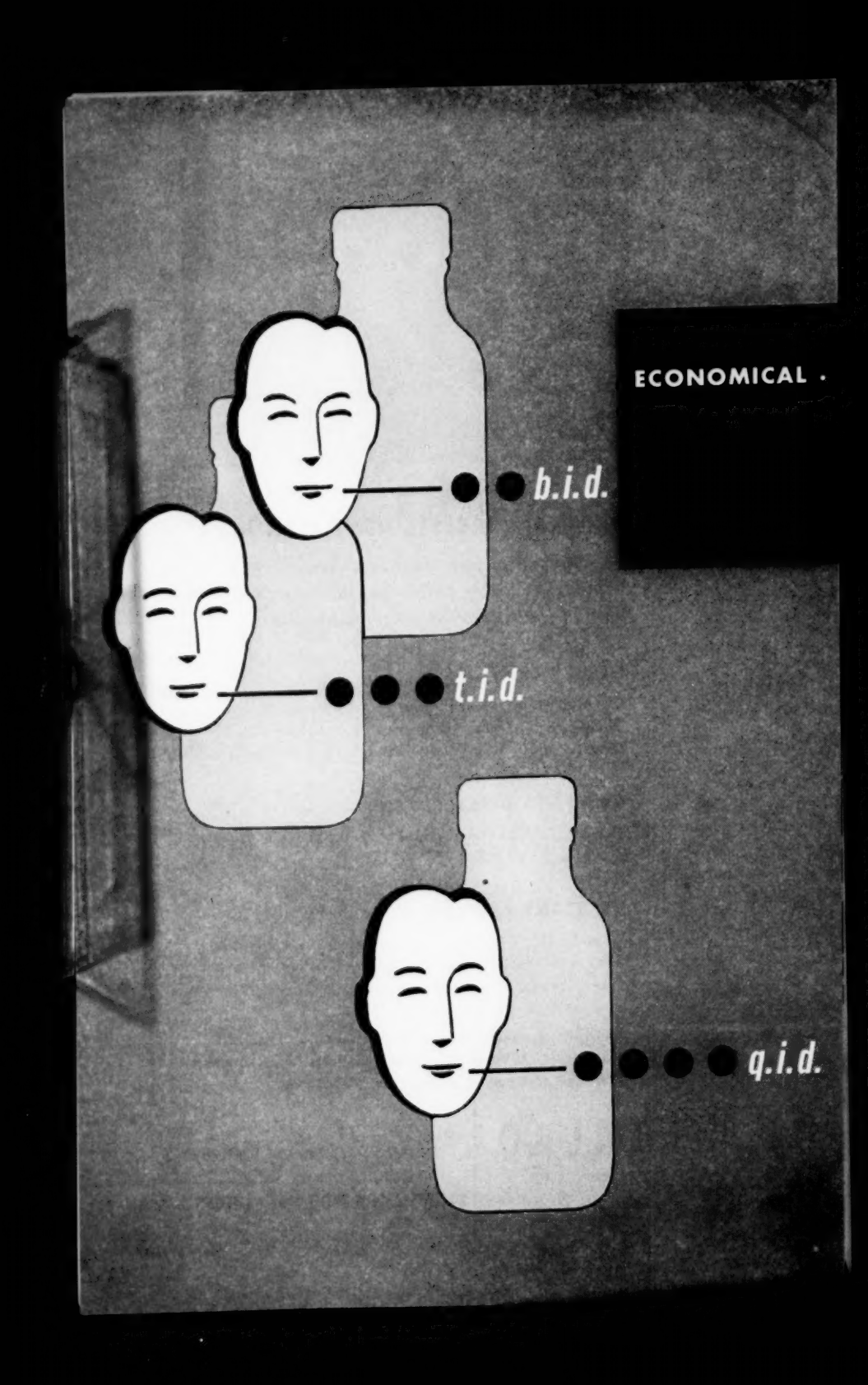
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1. Bain, W. A., Broadbent, J. L., and Warin, R. P.: Lancet 2:47, 1949.

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Special Article

Carcinoma of the Bladder*

HUGH J. JEWETT, M.D.†
Johns Hopkins University, Baltimore

Prepared for Modern Medicine

Tumors of the urinary bladder comprise 4% of urologic cases, occur approximately 4 times as often in males as in females, and account for 3 to 4% of all deaths a year from malignant disease in the United States.

In the general population, causes of bladder tumors are obscure. Chronic inflammation, irritation, leukoplakia, cystitis cystica, and cystitis glandularis have been suggested as possible precursors of new growth, but the precise relationship has not been established. Tumors may occur in persons engaged in certain occupations. These tumors result from stimulation by chemicals such as beta naphthylamine, benzidine, alpha naphthylamine, and nitro and amino compounds. Bilharziasis, or schistosomiasis, has been found associated with cancer of the bladder in about 5% of cases of vesical infestation.

Pathology of Tumors

Most of the tumors are epithelial, but a few are nonepithelial. In the Brady Institute, more than 99% of 2,000 vesical neoplasms were epithelial; only 7 were nonepithelial. The latter

* Much of this material is available in the chapter "Neoplasms of the Bladder" by Dr. Jewett, published in *The Cyclopedia of Medicine, Surgery, and Specialties*, F. A. Davis Company, Philadelphia, 1950.

† Associate Professor of Urology, Johns Hopkins University, Baltimore. Associate Editor, *Journal of Urology*.

type may occur in childhood, whereas epithelial tumors are rarely seen before adult life.

Epithelial tumors are conveniently divided into two groups: noninfiltrating and infiltrating. Noninfiltrating tumors may be benign or malignant papillomas. Either type is believed capable of subsequent alteration in activity and infiltration.

Infiltrating tumors may be pedunculated or nonpedunculated. The term "infiltrating" formerly was applied to a solid, sessile type of tumor which does not commence as a pedunculated tumor. Such tumors probably are rare; the majority of flat, nonpedunculated tumors are originally pedunculated but subsequently slough, either spontaneously or as a result of treatment. The restricted use of the term "infiltrating" is likewise misleading because papillary carcinomas also infiltrate and, furthermore, many pedunculated tumors are not papillary at all in the depths of the bladder wall.

Broders, in 1922, sought to divide all these tumors, regardless of architecture, into four groups, depending on four possible degrees of deviation of the cells from normal epithelium. His classification, comprising grades 1, 2, 3, and 4 of malignancy, stressed the importance of cellular differentiation within a tumor. The least differentiated cells are the least mature, and the most differentiated, the most mature. The carcinoma registry of the American Urological Association, however, declared in 1936, "It is impracticable to attempt the segregation of bladder tumors into definite groups corresponding to their cell types." Some tumors of high-grade malignancy were being controlled, and some tumors of low-grade malignancy were not eradicated even by radical surgery.

A study of 97 cases of infiltrating carcinoma which have come to autopsy at the Johns Hopkins Hospital disclosed the difficulties in classifying these tumors. Only 50% consisted of a homogeneous histologic pattern with practically the same degree of cellular differentiation throughout. The remaining 50% showed variation in pattern or in degree of differentiation, or in both; 80% of the cases, however, showed the same histologic pattern, but the degree of cellular differentiation frequently varied. Of these cases, 40% were papillary carcinoma, and of those that were poorly differentiated, 33% had metastasized. Epidermoid carcinomas

accounted for 40%, and of those that were poorly differentiated, 67% had metastasized; 20% were undifferentiated carcinomas, and 83% of these had metastasized.

These figures show that papillary carcinoma is the least malignant type; and undifferentiated, the most malignant; but they do not tell which tumors have and which have not already metastasized. Such a classification, therefore, by itself is not a reliable guide to prognosis.

A classification, to be really practicable, should indicate the prognosis with a fair degree of reliability. A study of 107 cases of infiltrating carcinoma upon which autopsies have been performed at the Johns Hopkins Hospital demonstrated conclusively that the incidence of metastases and extravesical extension is directly proportional to the depth to which the tumor has penetrated the vesical wall. Usually metastases were absent unless the tumor had invaded the bladder muscle deeply. A correlation between the histopathology of these tumors and the depth of penetration of the bladder wall showed that the same tumors which metastasized so frequently in group C were also present in group B, with the exception of undifferentiated carcinoma, yet only 1 tumor in group B had metastasized.

The histopathology of infiltrating carcinoma of the bladder is of secondary rather than of primary clinical significance. It apparently reveals only the potentiality of the tumor for rapid growth or metastasis, but does not by itself indicate either the presence or the absence of metastases or extravesical extension. From the standpoint of potential curability, therefore, which implies absence of metastases and of extravesical extension, the first and major division in the classification of these tumors must be between the superficially infiltrating and the deeply infiltrating varieties.

Symptoms and Signs

Hematuria is the presenting symptom in over 80% of the cases of cancer of the bladder. The hematuria may be slight, transient, painless, late, initial, diffuse, or terminal in character. Vesical irritability is complained of in about 30% of the cases of infiltrating carcinoma. Of such patients, however, 20% have neither gross hematuria nor vesical irritability.

(Continued on page 126)

Acute Renal Insufficiency

FRANCIS D. MURPHY, M.D.*
Marquette University, Milwaukee

OLIGURIA, anuria, and uremia may result from either glomerulonephritis or lower nephron nephrosis. Heart failure, hypertension, and convulsions are complications of both diseases.

Although the symptoms of acute renal insufficiency occur with either disorder, the immediate prognosis is quite different. About 70% of patients with lower nephron nephrosis die, but those who recover have no residual renal damage. Most patients with acute glomerulonephritis recover completely or pass into an intermediate stage of the disease in which the nephritis becomes subacute or chronic.

The renal lesion is the mark of distinction between the two diseases, points out Francis D. Murphy, M.D. In acute nephritis the predominant change is an acute inflammatory reaction of the glomeruli. In lower nephron nephrosis, the thick limb of Henle's loop and the distal convoluted tubules are the sites of damage. Distinctions between the two disorders are shown in the table.

Treatment of acute renal insufficiency, regardless of etiology, is directed toward preventing or overcoming uremia, heart failure, or brain damage. Early recognition and prompt treatment of these complications are important, since damage to the heart or brain is frequently irreversible.

Patients with acute nephritis are in great danger of acute dilatation and heart failure. Every effort should be exerted to prevent such hazards by [1] absolute bed rest, [2] employment of digitalis, [3] proper administration of intravenous fluids—excessive amounts are a common cause of heart failure and death in these cases, [4] immediate treatment of pulmonary edema by venesection.

Hypertensive encephalopathy or convulsions of nephritis may develop in the absence of azotemia. Twitching and convulsive-like seizures sometimes occur with abnormally low blood calcium levels. The convulsion, blindness, and coma of hypertensive encephalopathy may result from cerebral ischemia and edema.

Magnesium sulfate is the chief therapeutic agent for the convulsions. The drug is given in doses of 20 cc. of a 20% solution every four hours or until convulsions are controlled. Other measures that may be effective are intravenous administration of 50 cc. of 50% glucose withdrawal of spinal fluid, and venesection, if the blood pressure is persistently high.

The treatment of uremia centers in the attempt to correct abnormal alterations of electrolytes. No elec-

* Acute glomerulonephritis and toxic nephrosis (lower nephron). Wisconsin M. J. 50:455-460, 1951.

trolytes should be given unless chemical analyses reveal a necessity. The most important determinations to be made are: [1] blood nonprotein nitrogen, [2] sodium and chloride, [3] albumin-globulin ratio, [4] carbon-dioxide combining power, [5] serum potassium, and [6] calcium.

Fluid administration is necessary to overcome dehydration and altered composition of the blood. Four kinds of fluids should be considered: [1] glucose solutions, 5% in distilled water to overcome azotemia and promote diuresis, [2] normal sodium chloride solution if hypochloremia is present, [3] sixth molar sodium lactate or 3% sodium bicarbonate to

DISTINCTIONS BETWEEN TWO CONDITIONS

	Acute Glomerulonephritis (Hemorrhagic)	*Acute Toxic Nephrosis (Lower Nephron)*
Etiology	Infection, especially upper respiratory	Crush syndrome Sulfonamide intoxication Heat stroke Excessive dehydration Burns Surgery Shock Transfusion reaction
Pathology	Acute inflammatory reaction of glomeruli	Secondary changes in glomeruli, such as thickening of capillary wall and increased cellularity Degeneration and necrosis involving lower part of nephron Edema in interstitial spaces Heme casts in tubules Slight histologic changes in upper part of nephron
Symptoms and signs	Gradual onset of infection, especially upper respiratory, for ten days or more. Shock not present. Gradual onset of oliguria and anuria Albuminuria, hematuria, granular casts Edema, very early sign High blood pressure first day Azotemia progressing into uremia Decrease of carbon-dioxide combining power Uremia	Shock, usually first sign Oliguria, early, severe, persistent, with abrupt onset (100 cc. daily or less) Albuminuria, heme casts, granular casts, sometimes red blood cells Edema, tenth day or later High blood pressure after fifth day Azotemia with distinctive changes in electrolyte pattern and decided alterations in sodium, potassium, and calcium, especially in later stages and in diuresis phase Uremia
Complications	Heart failure early and persistent, aggravated by giving fluids Central nervous system irritation with convulsions Convulsions due to hypocalcemia Azotemia, hypochloremia, hyperkalemia, and hypocalcemia Uremia	Heart failure usually later, often provoked by excessive fluids Central nervous system irritation with convulsions Convulsions due to hypocalcemia Azotemia, hypochloremia, hyperkalemia, and hypocalcemia Uremia
Prognosis	Immediate prognosis good 5 to 8% die in acute phase; as high as 40% pass into transitional or chronic stage	Immediate prognosis poor 70% or more die; no complications in those who recover
Treatment	Absolute rest to protect heart Conservative and early treatment by maintaining optimal blood volume Attention to calcium and other electrolytes Special attention to withholding excessive fluids during oliguria and anuria	Treatment of shock Treatment of anuria Treatment of diuresis by proper amounts of fluid and control of electrolyte abnormalities Peritoneal irrigation and artificial dialysis

overcome acidosis, and [4] blood or plasma infusions or serum albumin to correct abnormal albumin-globulin ratio.

Sufficient fluid should be administered to cover the insensible loss of water as well as the amount of urine passed. As fluid lost through the skin, lungs, and bowels is approximately 800 to 1,000 cc. a day, this amount must always be administered in addition to the loss in the urine and vomitus.

In lower nephron nephrosis, unlike acute glomerulonephritis, a period of diuresis occurs about the fourteenth day. The output of urine may be as high as 3,000 to 4,000 cc. a day, and may lead to hypochloremia, hypopotassemia, and hypocalcemia. The electrolyte composition of the blood must be regulated carefully during this period.

An artificial kidney or duodenal or peritoneal lavage may be used to eliminate toxic metabolites and delay uremia until the kidney can resume function. The artificial kidney is the most effective but should not be tried until about the eighth day of anuria, when conservative measures have failed.

Postoperative Personality with Ulcerative Colitis

BENJAMIN V. WHITE, M.D.*

NEARLY half the patients with ulcerative colitis are emotionally immature and unable to throw off the yoke of attachment to a parent or a person serving as a parent-image. The patient may harbor feelings of hostility or resentment toward the person to whom he is attached. Death of a dominant parent, marriage, or birth of a child often exacerbates the illness because the quasi-security built on immature emotional ties is threatened.

Although the basic immature personality of the severely malnourished ulcerative colitis patient is unchanged by colectomy, Benjamin V. White, M.D., of Yale University, New Haven, Conn., observes a disappearance, after surgery, of the superadded depression, negativism, and petulance often accompanying the disease. Ileostomy occasionally achieves good results, but continuation of symptoms may make partial or total colectomy necessary.

Every psychosomatic illness may be visualized as a vicious circle with environmental occurrences acting upon the personality to produce tension, the tension reacting upon the susceptible organ to cause or aggravate disease, and the symptoms evoked intensifying the environmental difficulties. Surgical relief, followed by the disappearance of depression and of the gross outward manifestations of immaturity, appears to break the circle.

* The effect of ileostomy and colectomy on the personality adjustment of patients with ulcerative colitis. New England J. Med. 244:537-540, 1951.

The Background of Coronary Disease

MENARD M. GERTLER, M.D.
Columbia–Presbyterian Medical Center, New York City
STANLEY M. GARN, M.D., SAMUEL A. LEVINE, M.D.,
AND PAUL D. WHITE, F.A.C.P.*
Harvard University and Massachusetts General Hospital, Boston

YOUNG men with coronary disease tend to differ from comparable healthy groups in blood chemistry and body build.

One type prone to coronary heart disease often has an excess of serum uric acid, rather high cholesterol, and a large, soft physique; another type has much increased cholesterol, relatively less elevated uric acid, and a massive but muscular build.

Overweight alone, generally considered a factor in coronary disease, is no more common than among other men of the same age and social status. Contrary reports are often based on outdated statistics.

Factors of possible value in forecasting coronary artery disease were investigated in 3 classifications by Menard M. Gertler, M.D., Stanley M. Garn, M.D., Samuel A. Levine, M.D., and Paul D. White, F.A.C.P. The study included 97 men who had had myocardial infarction before the age of 40 years and were again active, 146 healthy men of comparable age and social grade, and a third division of 97 who were individually matched to the cardiac subjects in age, physique, occupation, race, and economic level.

The relation between serum uric acid, physique, and age was computed by the coefficient of correlation. Physique was rated by Sheldon's somatotype method as *endomorphy,* or softness and roundness; *mesomorphy,* with well-developed bone and muscle; and *ectomorphy, or* slender build.

Serum uric acid did not rise with age during the third, fourth, and fifth decades and was not related to purine in the diet. However, values increased with weight and body mass, especially endomorphy, and with coronary disease. The healthy, matched healthy, and cardiac groups had 4.64 mg., 4.85 mg., and 5.13 mg. per 100 cc., respectively. Just 6% of all well subjects, but 24% of those with myocardial infarction, had uric acid of 6 mg. or above.

Physique was also related to serum uric acid, since values were highest in endomorphs and lowest in ectomorphs. The rise was exaggerated with coronary disease, being 15% in endomorphs, 8% in mesomorphs, and 3% in ectomorphs.

The biochemical background of coronary disease was assessed more

* Body weight versus weight standards in coronary artery disease and a healthy group. Ann. Int. Med. 34:1416-1420, 1951. Serum uric acid in relation to age and physique in health and in coronary heart disease. Ibid. 34:1421-1431, 1951.

accurately when the cholesterol-phospholipid ratio was multiplied by uric acid, in milligrams per 100 cc., than by either value alone. The average value for the healthy groups was 90, and for coronary disease 119. Only 6% of the unmatched and 10% of the matched healthy subjects equaled or exceeded the coronary mean.

The reason for cholesterol and uric acid relations was not clear. In the lactam state uric acid might be a powerful cationic surface agent that attaches to the larger cholesterol molecule, inducing contact with the arterial intima.

The actual weight of each person in the coronary and unmatched healthy groups was compared with the norm-weight calculated from Army tables for age, height, and weight. Both classes were above the norms at all age levels and to about the same degree, with average deviations of about 18 and 19 lb.

¶ MORTALITY RATES for men with pernicious anemia treated with liver extract are twice as high as for men of the same age groups in the general Danish population. But Jorgen Jorgenson, M.D., of the University Hospital, Copenhagen, found that female mortality rates were not significantly affected by pernicious anemia. The excess mortality for men was 107%, for women 13%. Part of the doubled male mortality rate may be attributed to inadequate treatment. Women were apparently more tolerant of insufficient therapy. About half the male deaths resulted from cancer of the stomach, which was 6 times more prevalent in men with pernicious anemia than in other men. The ratio for women was about twice as many gastric cancers as for women without pernicious anemia. The study was made of 206 patients observed for two to seventeen years.

Acta med. Scandinav. 139:472, 1951.

¶ GASTROINTESTINAL IRRITATION from terramycin or aureomycin therapy may be prevented by administration with milk, which allows greatest absorption. If milk is poorly tolerated or ineffective, W. B. Parsons, Jr., M.D., and William E. Wellman, M.D., of the Mayo Clinic, Rochester, Minn., employ the antacids carmethose (sodium carboxymethylcellulose) or aciban, which consists of calcium caseinate and calcium carbonate. Doses given with 750 mg. of terramycin are 15 cc. of carmethose or 1 gm. of aciban. If preferred, 15 gr. of sodium bicarbonate is administered with 750 mg. of the antibiotic, using a 5-gr. tablet with each 250-mg. capsule of terramycin at five-minute intervals to the full dosage. All three agents control heartburn, nausea, and vomiting as well as milk does.

Proc. Staff Meet., Mayo Clin. 26:260-263, 1951.

Fibrosis of the Liver

J. HENRY DIBLE, M.B.*
Postgraduate Medical School of London

RECENT investigations have changed former concepts of hepatic degeneration, necrosis, and fibrosis. The nature of so-called fatty degeneration and portal cirrhosis is reappraised by J. Henry Dible, M.B.

Surplus fat in the liver cells always represents true infiltration of the liver from outside, not deterioration of hepatic cells. The fatty state is never responsible for cirrhosis, and lipotropic agents such as choline are not preventive.

Development of portal cirrhosis is essentially the same, whether arising from acute hepatitis or a slowly progressive disease without obvious symptoms. The individual lobules are partly or entirely destroyed, and surviving areas become hyperplastic in the framework or fibrous scar tissue. Differences in severity of disease and response of the organ produce the varied effects.

Fat must be brought to the liver cell by the blood, from either food or the body's own reserves, depending on the amount available. An emaciated patient who dies from phosphorus poisoning does not have the usual fatty liver.

When rats are allowed water but no food, starvation mobilizes all the fat-storing cells and fat is thrown into the circulation to accumulate in the liver. The larger the number of fat-storing cells, the more fat released in the circulation.

True liver fat, a small but essential cellular component, and stored body fat differ in ability to combine with iodine, respective values being 110 to 115 and 55 to 60. In both human and animal livers examined after death, iodine levels fall as the proportion of fat rises.

Fatty liver may be caused by local anoxia and bacterial or chemical toxemia, which interfere with the cell's use of fat, or by general disturbances such as cancer, tuberculosis, fever, or heart failure. A period of inanition before death seems to exert the greatest influence.

More than half the livers observed post mortem have excessive fat, yet only about 2.5% are fibrotic. No surplus appears in more than half the instances of cirrhosis, and biopsies in early stages of disease show even lower numbers of fatty livers.

Some features of portal cirrhosis develop in other types as well. Biliary cirrhosis, if obstruction is complete, begins with fibrosis of the portal tracts, central necrosis of lobules, and scattered biliary lesions in the parenchyma. Bands of fibrous tissue may join, but no foci of hyper-

* Degeneration, necrosis, and fibrosis in the liver. Brit. M. J. 4711:833-841, 1951.

plasia appear in the lobules unless the condition is prolonged. The liver does not shrink or become impregnated with fat.

Cardiac cirrhosis from chronic venous congestion causes hepatic enlargement in younger subjects and atrophy in the elderly. A central scar develops, tentacles of portal fibrous tissue gradually reach the central lesions, and a cicatricial network forms throughout the liver. Involvement is often worst in the left lobe.

Syphilitic fibrosis is due only to tertiary gummatous infiltration, although the same liver may have evidence of virus infection. Healed luetic lesions produce irregular, coarse, roughly stellate scars and in some cases classic hepar lobatum.

Portal cirrhosis runs the gamut from harmless monolobular involvement to a polylobular condition with big complex nodules and thick bands of fibrous tissue. Ordinary acute hepatitis causes necrosis within each lobule, especially about the hepatic vein, but, at the same time, considerable cellular infiltration in the portal tract exists. The lesion is apt to persist for some time after jaundice disappears.

In fatal cases the acute lobular lesions are confluent, producing so-called subacute atrophy. The most severe fulminating infection results in massive necrosis, or acute yellow atrophy, with almost total destruction of hepatic cells.

Relenting hepatitis may leave insignificant or serious sequelae. In some cases, fibrotic lesions have all the features of developing cirrhosis, with fine portal scars and a tendency to union of fibrous bands. More advanced conditions are multilobular, with partially regenerated nodular areas.

The same changes may occur at a much slower rate in cryptogenic cirrhosis discovered only after death from another disease.

Up to a point lesions regress, but past this limit the process continues, even if the original stimulus has ceased. The hyperplastic response occurs in the parts with the best blood supply: in fibrotic livers, within existing lobules; and in livers damaged by acute necrosis, within the larger surviving areas.

New foci of hyperplasia arise within tissue not yet fibrous. Competition develops between the older liver cells and the cells of the new hyperplastic area, and pressure of the new cells may flatten the old, causing atrophy or disappearance. The entire parent nodule may eventually be replaced, or two or more form.

In the cirrhotic liver of hemochromatosis, the older cells are heavily loaded with iron pigment. Newly formed foci have little color, and recent nodules are easily distinguished within the larger and older structures.

Cirrhosis progresses by fits and starts, affecting the cells unevenly; fever and jaundice indicate extension of necrosis. Some areas of recent nodular hyperplasia may not become necrotic, probably owing to an independent blood supply.

Thus the final picture of polylobular cirrhosis is the end-result of a monolobular disorder. Acute or symptomless hepatitis may heal or leave a progressive lesion that ultimately turns into coarse fibrosis.

Oral Cortisone for Chronic Diseases

EPHRAIM P. ENGLEMAN, M.D., PETER KUNKEL, M.D.,
JOSEPH E. WELSH, JR., M.D., AND M. GLENN MOLYNEAUX, M.D.*
Veterans Administration Hospital, San Francisco

For prolonged therapy of chronic diseases, the oral route of administration of cortisone is particularly useful.

Cortisone has a more rapid initial effect by mouth than by the parenteral route. When changing from intramuscular to oral dosage, the amount of cortisone need be increased no more than 30% to be effective.

Also commendable is the brief duration of action of oral cortisone. Although the hormone must be given three to four times daily, toxic effects rapidly disappear.

Cortisone tablets are available for oral use but the injectable form may also be given by mouth after suspension in a suitable syrup vehicle.

For best therapeutic results, and to avoid the potential hazards of cortisone toxicity, patients must be selected with care. Abnormal emotional lability, renal insufficiency, cardiovascular disease including hypertension, diabetes, active or latent tuberculosis, and peptic ulcer all contraindicate cortisone. Also, the hormone is perhaps best avoided in chronic illness if continued therapy will be impossible for financial or other reasons such as unavailability.

In the treatment of chronic illness, a large initial priming dose of the hormone is unnecessary. Ephraim P. Engleman, M.D., Peter Kunkel, M.D., Joseph E. Welsh, Jr., M.D., and M. Glenn Molyneaux, M.D., usually begin with a daily amount of 100 mg. divided into three or four doses. After two or three weeks this dose is gradually decreased to the smallest effective amount.

The maintenance dose should produce the desired therapeutic result but permit some symptoms or signs to persist. The incidence of side reactions from cortisone is thus decreased. A completely symptom-free state would be desirable but often requires dangerously large amounts of cortisone.

Before starting therapy, the patient's weight, blood pressure, and blood sugar should be noted. In general, hospitalization is not needed. But, if large amounts of the material are to be used, a low-sodium diet with supplementary oral potassium salts is required.

Close observation of a person receiving cortisone is requisite. Mood swings must be watched for, such as euphoria or depression. The body weight and blood pressure should be determined at least weekly.

Prolonged cortisone therapy usually causes roundness of the face, the so-called moon facies. Occasionally glycosuria or hyperglycemia occurs. Such side effects disappear upon stopping cortisone. Toxic reactions

* Experiences with cortisone given orally. California Med. 75:1-5, 1951.

which demand discontinuance of the drug include convulsions, congestive heart failure, psychoses, and severe hypertension.

The adrenal cortex tends to become dormant during prolonged cortisone therapy. Sudden withdrawal of cortisone may precipitate acute adrenocortical insufficiency. Therefore, except to stop serious side reactions, cortisone should be discontinued gradually. When planning to cease therapy, the daily dosage should be decreased by 12.5 to 25 mg. every two or three days.

Good results are obtained in a substantial number of patients with rheumatoid or chronic gouty arthritis, bronchial asthma, atopic dermatitis and keratitis, sympathetic ophthalmia, and other chronic illnesses. However, all but critically ill patients probably should be given a trial with older conventional therapeutic measures before cortisone is essayed. If the disease progresses despite conventional treatment and cortisone has previously proved effective in the illness, oral cortisone should be tried.

Hemophilia in the Female

M. C. G. ISRAELS, M.D., AND ASSOCIATES*

THE genetic possibility of hemophilia in the female offspring of a male hemophiliac and a female hemophilia carrier has long been recognized, but the consensus has been that the fetus would die in utero. However, a 24-year-old woman with true hemophilia has recently been studied by M. C. G. Israëls, M.D., of the University of Manchester, H. Lempert, M.D., of the Manchester Royal Infirmary, and Elizabeth Gilbertson, M.B., of St. Mary's Hospitals, Manchester, England.

The patient's father had hemophilia and her mother came from a hemophiliac family. About ten days after giving birth to a healthy girl, the patient had a hemorrhage which could not be sufficiently controlled and a hysterectomy was finally done about a month after delivery. Tests of the patient's blood coagulation mechanism, including the Lee-White clotting time and the prothrombin consumption time, indicated hemophilia.

The patient's plasma-fibrinogen level was normal, thereby excluding fibrinogenopenia as the cause of bleeding. The possibility of circulating anticoagulants was eliminated by comparing the reaction of the patient's plasma with normal plasma and with the plasma of another hemophiliac. Finally, parahemophilia was excluded by demonstrating the presence of the plasma-prothrombin accelerator factor.

* Hemophilia in the female. Lancet 260:1375-1380, 1951.

Atomic Bomb Radiation Injuries

EUGENE P. CRONKITE, M.D.*
George Washington University, Washington, D.C.

FULL utilization of diagnostic and supportive procedures and control of complications are essential to save lives after explosion of an atomic bomb.

Cmdr. Eugene P. Cronkite, M.C., U.S.N., states that diagnosis and prognosis after radiation injury may be made by analysis of symptoms. Other criteria, such as distance of the patient from the explosion or measurements by dosimeter, often suggested as diagnostic means, are not always reliable. Shielding or the terrain influences the effects of the radial distribution after an explosion, and the absolute sensitivity of individuals is not yet known.

If vomiting occurs on the bombing day, followed by diarrhea, prostration, continued vomiting, anorexia, fever, and prompt and profound leukopenia, survival is improbable and death will occur shortly. Survival is possible when early vomiting is followed by an asymptomatic period of one to three weeks before appearance of purpura, epilation, oral and cutaneous lesions, infections of wounds or burns that were healing, and bloody diarrhea. Survival is probable if no immediate vomiting occurs, unless complicating factors such as burns, trauma, or concomitant epidemics exist.

Maintenance of electrolyte equilibrium and nutrition during an anorexic or pyrexic phase is vital. Glucose, amino acids, and electrolytes are given parenterally. Proctoclysis may be helpful.

Frequent and extensive hematologic surveys should include levels of all circulating cell types, reticulocytes, and platelets and determination of clotting mechanism. The absolute lymphocyte count twenty-four hours after exposure is a good index of exposure in the sublethal range.

Favorable diagnostic signs are the return and increase of reticulocytosis, granulocytes remaining above 1,500 per cubic millimeter, and rise of platelets with failure of platelets to drop below 75,000. Unfavorable manifestations are no platelets or reticulocytes, less than 500 granulocytes fifteen days after exposure, purpura with a prolonged clotting time, and fever.

The hemorrhagic phase is caused by thrombocytopenia, for which present treatment is unsatisfactory. Platelets cannot be well replaced by transfusions. Rutin and related substances are of questionable value for augmenting capillary integrity. Antibiotic therapy is useful to decrease ulceration and help prevent massive fatal hemorrhage by erosion of vessels.

The pancytopenia temporarily in-

* The diagnosis, prognosis, and treatment of radiation injuries produced by atomic bombs. Radiology 56:661-669, 1951.

duced by potentially lethal amounts of radiation is, therapeutically, similar to idiopathic pancytopenia or the type temporarily induced by drugs or infections. Anemia results from increased destruction of red blood cells, failure of production, and hemorrhage. Treatment is replacement. With a midlethal radiation casualty, 5 to 6 units of blood are usually needed to maintain red blood cell level. To this must be added the amount lost by hemorrhage. A 10- to 11-gm. hemoglobin level seems adequate for maintenance.

Radiation injury fosters bacterial infection because of concomitant granulopenia and impaired immune responses. Epidemics among a leukopenic population may be catastrophic. Oral administration of penicillin and aureomycin should probably be started by the second week.

Signs of infection, particularly ulcers and fever, indicate vigorous use of oral and parenteral antibiotics. A wide spectrum of antibiotics is needed because of the diverse bacteria that may invade. The drugs should be continued until granulocytes are in excess of 1,500 per cubic millimeter and all evidence of infection has subsided.

Posttraumatic Electroencephalography

ANDRE A. WEIL, M.D.*

THE difference between malingering or conversion hysteria and true organic sequelae of brain injury may be shown by electrographic records. Even when results of the usual neurologic tests are negative or questionable, actual pathology can be demonstrated in about 2 of 5 cases of posttraumatic encephalopathy.

In 50 cases, Andre A. Weil, M.D., of Western Reserve University, Cleveland, investigated residual effects of head trauma ranging from simple concussion to penetrating wounds and comminuted fractures.

All patients complained of headache, dizziness, poor equilibrium, psychomotor fatigue, and forgetfulness, but 27 had no neurologic abnormalities. For the 23 others, neurologic tests confirmed presence of abnormalities or manifest epilepsy developed at least two years after the accident. Electroencephalograms were normal in only 37% of the first group and in none of the second. Irregularity increased with degree of trauma and with neurologic change, and in the latter case was usually focal. Tracings revealed organic pathology in 41% of the cases without other proof of nerve lesions.

Most of the normal or equivocal electroencephalograms were made more than a year after concussion or fracture. Compensation claims were pending in more than half of such cases.

* Electroencephalographic findings in post-traumatic encephalopathy. Neurology 1:293-298, 1951.

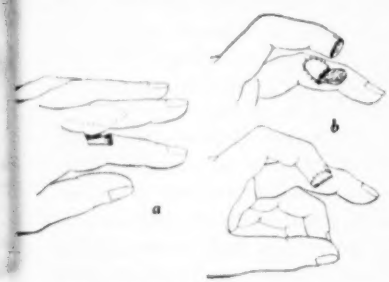
Cross Finger Flap Repair

THOMAS D. CRONIN, M.D.*
Baylor University, Houston

WHEN skin and subcutaneous tissue are needed to repair finger injury, a flap from another digit may be used, if the defect is not extensive.

The cross finger flap may be employed on flexor or extensor surfaces and is limited only by the amount of skin available on the donor finger. The flap can be only about half as long as the circumference of the digit and about as wide as the distance from a point near the web to shortly below the nail.

The grafting position, obviously less uncomfortable and inconvenient



Finger position for repair

than attachment of the finger to the abdomen, chest, or opposite arm, also entails shorter hospitalization. Moreover, the finger skin is less bulky and has finer stereognostic sense than that from other sources. The method is especially applicable, asserts Thomas D. Cronin, M.D., where free skin grafts are not suitable—to cover exposed tendons, bones, joints, or amputation stumps or to repair deep loss of pulp.

Unlike the thenar or hypothenar flap, suitable only for tip amputations because of the distance involved, the cross finger furnishes a well-padded covering over the end of a bone stump at any level, preserves all possible length, and produces no scarring on the useful surface of the hand.

Proper fit of the flap is assured by a cloth pattern before surgery. With care in dissection and in use of the tourniquet on the arm, no nerves or vessels are injured. The donor site is generally covered by a split-skin graft after raising. If a flap is used to repair a defect of the extensor surface, the flexor surface may be encroached upon for a flap of sufficient length (Fig. *a*).

The flaps are usually raised and transferred immediately. If a very large flap is required, transfer is delayed a week or so to insure adequate blood supply.

To avoid subsequent contracture, a free full-thickness skin graft is used over the donor site in children and a very thick split graft in adults. If a flexion crease must be crossed in raising the flap, a triangular excision at the crease is made to avoid a straight line which might contract.

* The cross finger flap: a new method of repair. Am. Surgeon 17:419-425, 1951.

The pedicle of the flap is cut in two or three weeks. Usually the cut edge is left to heal with few or no sutures and with little or no undermining or revision of the edge, to avoid injuring the new blood supply. The edge heals promptly.

Successful primary tendon repair is possible with a cross finger flap. In covering an exposed tendon, some extra skin is excised at each end of the wound so that the scar will not directly overlie the tendon. For immobilization, a light plaster splint may be used.

In stump cases and other repairs for loss of pulp, the fingers are flexed to secure a comfortable attachment (Fig. *b*). Gauze is packed around the fingers to form a fairly voluminous bandage and the whole hand is wrapped with an Ace bandage.

With electric burns of the hand, extent of destruction is deceptive and removal of necrotic material after the grafting may be necessary. In crush injuries, with gangrenous tissue and splintered bone, delay before grafting may be advisable.

Acid Debridement of Burns

ROBERT J. SCHWEITZER, M.D., AND JACOB T. BRADSHER, JR., M.D.*

PHOSPHORIC ACID gel removes the dead slough from burned areas without injury to living tissue. Action depends on prolonged lowering of *p*H on the raw surface. Debridement may be complete in eight days or less, a fraction of the period required with petrolatum or boric acid dressings. The method is especially useful for large burns of uneven depth.

Robert J. Schweitzer, M.D., and Jacob T. Bradsher, Jr., M.D., of Boston City Hospital and Tufts College, begin acid debridement immediately after coping with shock. Phosphoric acid powder is added to an antiseptic water-soluble vehicle to form a stable gel with a *p*H of 1.02. Small amounts of Demerol or morphine are given as premedication, but no anesthesia is necessary. Parallel cuts are made in the eschar, and the wound is covered with a thin layer of gel. A narrow border of felt strips soaked with petrolatum is built up to prevent seepage, and petrolatum strips and fluffed gauze are applied over the whole region. A burned arm or leg may be wrapped with a gel-spread towel.

The dressing is changed daily or every other day, and when cleavage begins, loose scab may be removed with scissors and forceps. Irritated areas of surrounding skin are anointed with petrolatum or zinc oxide. Debrided surfaces are dressed with weak chlorinate solution, and grafting is done when needed.

* Acid débridement of burns with phosphoric-acid gel. New England J. Med. 244:705-709, 1951.

Peripheral Pulmonary Masses

OSLER A. ABBOTT, M.D., WILLIAM A. HOPKINS, M.D.,
TED F. LEIGH, M.D., AND WILLIAM E. VAN FLEIT, M.D.*
Emory University, Atlanta

A SINGLE outlying pulmonary mass beyond reach of the bronchoscope and more than 1 cm. in diameter should be identified immediately for proper treatment.

Exploratory thoracotomy is necessary in about 2 of 3 instances and excision in 7 of 8. Approximately half of the peripheral lesions are malignant, many are tuberculous, and even those that appear stationary under prolonged roentgen observation may have grave import.

Now that chest surgery is relatively safe, the old policy of watch and wait is untenable. Diagnostic problems encountered in 81 cases are discussed by Osler A. Abbott, M.D., William A. Hopkins, M.D., Ted F. Leigh, M.D., and William E. VanFleit, M.D.

As soon as lesions are discovered, detailed histories should be obtained. Conservative tests are usually unrevealing, but laboratory procedures should include bacteriologic and cytologic study of bronchial secretions and sputum. Skin tests and bronchoscopic examinations are performed.

Roentgenograms are indispensable, though results are seldom absolutely definitive. An adequate survey entails posteroanterior and lateral views, fluoroscopy, and visualization of the esophagus with barium.

Laminagraphy in both posteroanterior and lateral planes is frequently a valuable adjunct. In areas vaguely defined by routine films, clearcut calcium deposits may be demonstrated in a granuloma or finger-like projections extending from a carcinoma.

Fluoroscopic examination reveals such details as intrinsic pulsations of a mass with broad radiating bands of increased density, suggesting a vascular anomaly.

Angiocardiograms are made in selected cases. An arteriovenous fistula may be confirmed, or circulatory obstruction by a tumor indicated.

Bronchograms are seldom useful and usually show only obstructed and displaced bronchi. Such observations are more accurate with the bronchoscope.

Of the 81 peripheral masses observed, 39 were neoplastic and 17 tuberculous. Granulomas not due to tuberculosis were found in 9 cases, lung abscess from blocked cavities in 6, and congenital defects in 5: 3 arteriovenous fistulas and 2 cysts.

The remaining 5 abnormalities were xanthoma with abscess, inspissated interlobar empyema, hyperplastic peribronchial nodes, encapsulated fluid, and organized pulmonary infarct.

* Significance and management of peripheral pulmonary masses. J.M.A. Georgia 60:243-249, 1951.

In 54 cases a satisfactory diagnosis was achieved only by actual exploration, although less radical investigative measures were used intensively.

Roentgenography, the one other procedure of major importance, was successful preoperatively in 12 instances.

Symptoms were diagnostic in 4 cases. Cough, pain, weakness, weight loss, hemoptysis, dyspnea, wheeze, and fever developed with equal frequency in all types of pulmonary disease.

Examination of sputum and endoscopic specimens disclosed malignant cells in only 2 instances. A lesion observed fifteen months without visible change in size proved to be bronchogenic cancer.

Peripheral masses were removed in 72 cases, and surgery might have been avoided in only 1 instance. No major complications developed except for 1 cardiac death after total pneumonectomy for advanced primary carcinoma.

Unfortunately, observation of many suspicious areas was continued and diagnosis delayed until the incurable stage.

Paravertebral Block in Acute Cholecystitis

DOUGLAS EASTWOOD, M.D., AND NATHAN A. WOMACK, M.D.*

BLOCKING of the right thoracic sympathetic trunk at the level of the eighth and ninth ganglions relieves pain immediately in early acute inflammation of the gallbladder.

Injection of 5 to 10 cc. of 2% procaine into each of the two ganglions stopped pain for one day to several weeks in 10 of 14 cases thought to be acute cholecystitis, state Douglas Eastwood, M.D., of Washington University, St. Louis, and Nathan A. Womack, M.D., of the University of North Carolina, Chapel Hill. Operations shortly thereafter revealed that 6 of the patients had subsiding acute cholecystitis. Edema of the gallbladder, pyloric ulcer with inflammation about the hepatic plexus, cystic duct stump syndrome, and cholangitis were found in the remaining cases in which relief was achieved. Jaundice from reflex spasm of the common bile duct sphincter also subsided in 1 case.

The failure of the pain to return in most instances and the rapid subsidence of the obstructive process suggest that motor fibers are also inhibited by the block.

If the diaphragmatic or parietal peritoneum is involved, little benefit is obtained by procaine injection. Paravertebral block may be used to differentiate the right upper quadrant pain of psychoneurosis from biliary tract discomfort of organic origin.

* Sympathetic nerve block in early acute cholecystitis. Arch. Surg. 63:128-131, 1951.

Streptokinase for Clotted Hemothorax

DUANE CARR, M.D., AND S. GWIN ROBBINS, M.D.*
University of Tennessee, Memphis

THICK pus or clotted blood in the pleural cavity may encase the lung in a tough fibrotic layer that seriously limits function.

Instillation of the bacterial enzymes streptokinase and streptodornase may prevent organization of fibrin deposits into scar tissue. Coagulated blood and viscid exudates are liquefied, and prolonged tube drainage, thoracoplasty, or extensive decortication of the lung and chest wall may be avoided.

Duane Carr, M.D., and S. Gwin Robbins, M.D., have treated 10 patients for conditions due to automobile accidents, stab wounds, extrapleural pneumothorax, partial lobar resection, and loculated tuberculous empyema.

Dosage varies with different circumstances. Although 48 cases have been reported, SK-SD therapy is still experimental, and the best schedules are not fully determined.

The lysing agents are derived from hemolytic streptococci of a strain not pathogenic for man. Streptokinase apparently stimulates a fibrinolysin precursor in blood and exudate. Activity continues for only twenty-four hours after injection, but in forty-eight hours the latent factor is replenished and lysing capacity restored.

Streptodornase acts directly upon desoxyribonucleoprotein, a component of pus and purulent exudate which forms 30 to 70% of the solid matter.

Both enzymes irritate living cells but do not cause necrosis and cannot dissolve organized fibrous tissue. Because the concentrates employed contain antistreptokinase factors, dilution is advisable.

From 5 to 20% of thoracic injuries produce blood clots in the pleural space before aspiration is feasible or safe. The best time for treatment is about two weeks after hemorrhage.

To prevent rise of temperature and general discomfort, 0.1 gm. of amidopyrine is administered three times on the day before and the first day of the course. A preparation combining 200,000 units of streptokinase with 70,000 of streptodornase may be given in 30 to 50 cc. of physiologic saline.

As a rule, SK-SD solution is injected into the pleural cavity two or three times on alternate days, and serosanguineous fluid is aspirated daily. To prevent or eliminate infection, 500,000 units of penicillin and 1 gm. of streptomycin may be introduced after each aspiration.

Walled-off pockets in an abcess or blood clots should be sought and drained. Treatment may be stopped

* Streptokinase and antibiotics in the treatment of clotted hemothorax. Ann. Surg. 133:855-866, 1951.

when the roentgen shadow has disappeared, but, if the clot has organized, should not be unduly prolonged. After the course, aspirations are continued until the pleural space is dry or completely obliterated.

If a bronchopleural fistula is evident, SK-SD treatment should not be used. Enzymes may dissolve a clot closing a bronchial stump.

Therapy may result in pleural pain and general malaise, but apparently not in actual complications. The response of membranes to irritation by the solvents is not severe enough to prevent reexpansion of the lung. Lavage is tolerated in spite of toxic conditions.

SK-SD therapy with antibiotics is not a substitute for empyema drainage unless complete expansion of the lung, sterilization of the pleural cavity, and rapid obliteration of the pleural space occur.

Prognosis with Carcinoma of the Rectum

DEXTER E. GUERNSEY, M.D., AND ASSOCIATES*

LOCATION of a cancer of the rectum in relation to the levator ani muscle is an important factor in prognosis. The dissemination of tumor laterally through lymphatic channels over the levator ani muscle appears to render complete removal of low-lying lesions more difficult.

From a study of the five-year survival rates of 255 patients treated by combined abdominoperineal resection, Dexter E. Guernsey, M.D., of San Luis Obispo, Calif., John M. Waugh, M.D., and Malcolm B. Dockerty, M.D., of the Mayo Clinic, Rochester, Minn., conclude that the length of survival decreases the nearer the lesion is situated to the levator ani muscle. The poorest prognosis is associated with lesions within 2 cm. of the levator ani, approximately 5 cm. above the anal margin.

Likelihood of satisfactory outcome is further lessened if the growth involves the internal anal sphincter. Of all lesions situated 5 cm. or less above the anal margin, 40% will have involvement of the internal sphincter muscle. Procedures in which the internal sphincter is preserved should, therefore, not be employed for cancers in this location. Patients with internal sphincter involvement usually have no symptoms referable to this structure, but usually seek treatment earlier than patients without sphincter involvement. Short duration of symptoms should arouse suspicion of internal sphincter involvement.

The external sphincter is rarely compromised by carcinoma, so procedures sparing the external sphincter are not contraindicated.

* Carcinoma of the rectum. Surg., Gynec. & Obst. 92:529-538, 1951.

Surgical Therapy of Pulmonary Stenosis

WILLIS J. POTTS, M.D., AND WILLIAM L. RIKER, M.D.*
Children's Memorial and Grant hospitals, Chicago

DIRECT attack on the stenotic valve is the most satisfactory treatment for pure pulmonary stenosis, the only important abnormality in a small but significant number of children with cyanosis caused by congenital heart disease.

The operation described by Willis J. Potts, M.D., and William L. Riker, M.D., is performed with a valvulotome so constructed that the blades can be retracted by a turn screw while the instrument is being thrust through the ventricular wall. A gauge indicates how widely the blades are expanded in the right ventricle before moving through the stenotic valve. A dilator built on the same principle is also used. The shaft is of identical caliber.

Preoperative medication is liberal, including morphine sulfate and scopolamine hydrobromide. Cyclopropane with small amounts of ether during induction is used for anesthesia. The first plane of anesthesia is maintained throughout the operation.

A plastic tube or large needle is inserted into the saphenous vein at the ankle for administration of fluid or blood.

On the operating table, a sheeting-covered water mattress with circulating cool or ice water controls the patient's temperature, which is observed continuously by means of a rectal thermocouple with an attached illuminated galvonometer. The more cyanotic the child, the further the temperature should be reduced during operation.

A curved submammary incision is made beneath the left nipple (Fig. *a*). The pectoralis major muscle is reflected upward and the thorax entered through the third intercostal space (Fig. *b*). The second, third, and fourth ribs are cut at the costosternal junction.

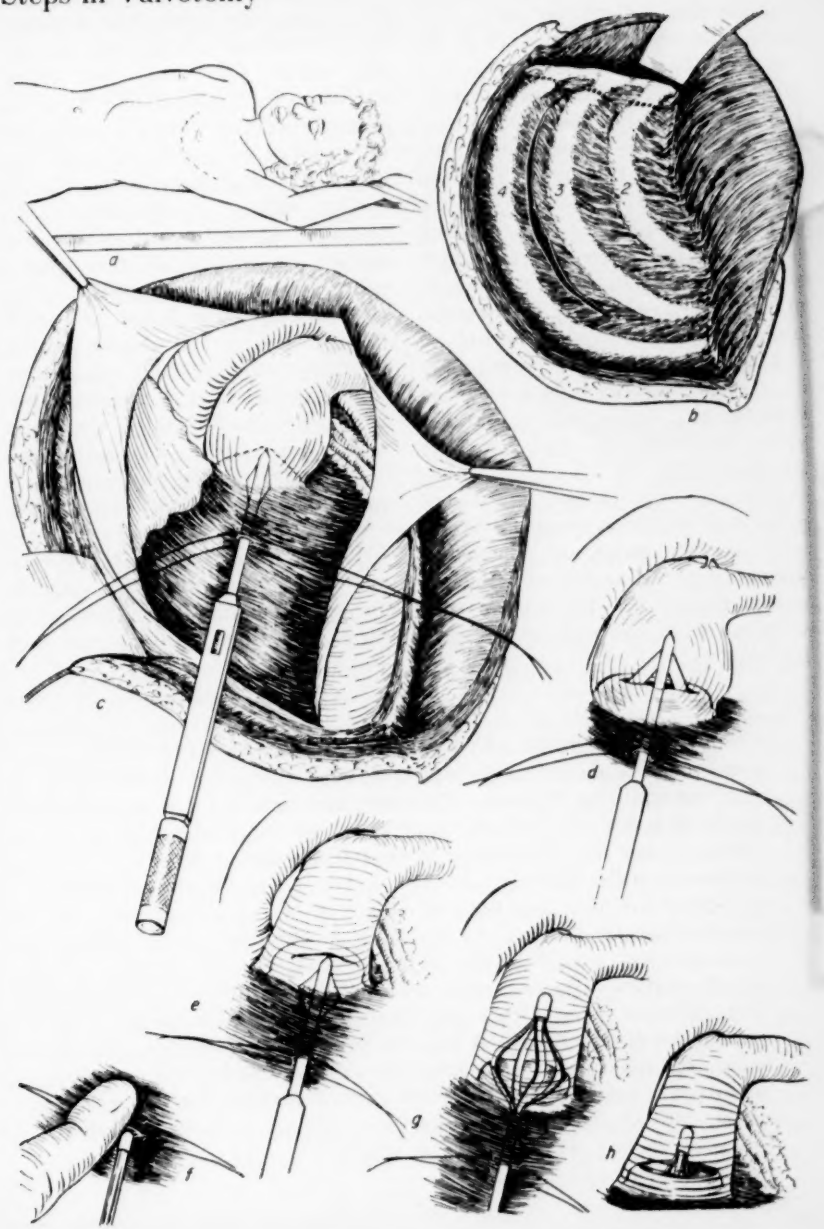
A small opening is made in the pericardium, and 5 cc. of 1% procaine is introduced and left in the sac for five minutes. Then the pericardium is widely opened by a longitudinal anterior incision, parallel to the phrenic nerve.

If the patient has pure pulmonary stenosis, a large, round, tense, bulging right ventricle is seen. Poststenotic dilatation of the pulmonary artery is pathognomonic. Real or apparent constriction is visible in the pulmonary artery at the pulmonary valve. Palpation conveys a feeling of increased pressure in the right ventricle and decreased pressure in the dilated pulmonary artery.

Blood rushing through the stenosed valve into the dilated pulmonary artery produces a palpable, high-pitched systolic thrill. As the pulmonary artery is slightly com-

* Surgical treatment of pulmonary stenosis with intact interventricular septum. Arch. Surg. 62:776-784, 1951.

Steps in Valvotomy



pressed, a jet of blood, forced through the constriction with each heart beat, may be felt. These observations confirm the diagnosis and distinguish pure pulmonary stenosis from infundibular stenosis.

When diagnosis is established, 2 cc. of 1% procaine is injected into the right ventricle where the valvulotome is to be introduced. Two holding sutures are placed in the ventricular wall. A tiny transverse incision is made part way through the musculature between the holding sutures.

The valvulotome, completely closed, is thrust into the right ventricular chamber and guided to the stenotic valve by palpation with the left forefinger (Fig. *c*).

The diameter of the constricted pulmonary artery is estimated by direct vision and palpation. The valvulotome is opened to that size (Fig. *d*), moved through the fused valve, and withdrawn into the ventricular chamber (Fig. *e*).

Immediately, increased pressure in the pulmonary artery and a larger jet of blood are felt passing through the vessel. The completely closed valvulotome is withdrawn. Bleeding from the cardiac wound is controlled by pressure with a finger until the closed dilator is introduced (Fig. *f*).

The dilator is directed to the recently incised constriction and opened as widely as the artery's caliber permits (Fig. *g*). Haste is unnecessary, because blood will flow through the ribbed dilator during dilatation. Before the completely closed dilator (Fig. *h*) is withdrawn, a suture is put through the heart wall close to the instrument and tied as the dilator is removed. A second stitch is placed next to the first.

The pericardial sac is closed, leaving an opening near the apex to prevent accumulation of fluid. The chest is drained through the fifth interspace.

¶ INTRACTABLE HICCUPS may be quieted with repeated phrenic nerve blockade through a polyethylene catheter left in the neck tissue several days, if usual conservative measures fail and operation is not desirable. For accurate placement, the external motor point of the phrenic nerve is located by electric stimulation with a silicon-insulated needle. Stanley J. Sarnoff, M.D., and L. Charlotte Sarnoff of Harvard University, Boston, employ 9 in. of tubing with an outside diameter of 0.038 in.; a stilet $\frac{1}{32}$ in. shorter than the tubing; a thin-walled, 2-in. No. 18 needle; a blunt No. 23 needle; and needle stopper. The catheter is attached to the skin with collodion and adhesive tape. Either 2% procaine hydrochloride or 0.1% pontocaine hydrochloride is injected through the catheter. Fluoroscopic examination may be advisable to show inadequate blockade or bilateral involvement. The possibility of blocking the vagi exists; vocal cords should be inspected at least half an hour after the first injection, before the procedure is repeated on the opposite side.

Anesthesiology 12:270-275, 1951.

Spinal Anesthesia for Children

SAMUEL BERKOWITZ, M.D., AND BARNETT A. GREENE, M.D.*
Unity and Adelphi hospitals, Brooklyn

SUBARACHNOID use of hyperbaric solutions is an excellent anesthetic method for pediatric surgery below the diaphragm, especially if the child has intestinal distention, respiratory infection, a full stomach, or high fever.

Samuel Berkowitz, M.D., and Barnett A. Greene, M.D., warn that the procedure should be used only by anesthesiologists who are experienced in giving spinal anesthesia to adults. Uncooperative children will require premedication.

A preanesthetic vasopressor is desirable; 1 mg. of neosynephrin hydrochloride, 0.1 cc. of a 1% solution, is given per 25 lb. of body weight, subcutaneously or intramuscularly, unless the child has asthma. Asthmatic patients receive ephedrine sulfate.

A procaine wheal and subcutaneous infiltration with a 25-gauge needle prevent pain and muscle spasm during spinal puncture. Very young or disturbed children may require inhalation anesthetic to prevent movement during puncture. Neosynephrin, oxygen, and blood volume restoratives must always be available.

Spinal puncture is performed with a 5-cm., 22-gauge needle through the fourth or fifth lumbar interspace with the patient on his side. The child is held sitting only if prolonged low analgesia is desired. The needle is advanced 1 mm. beyond the depth at which the spinal fluid is first seen well out of the needle. Spinal fluid is aspirated to obtain the volume needed to form a 5% solution of procaine hydrochloride.

Crystals of procaine hydrochloride dissolved in spinal fluid, 50 mg. per cubic centimeter, are used for brief operations. The amount injected intrathecally is 1 mg. per pound of body weight or 10 mg. per year of age. Concentration, a 3 to 5% solution, is varied for the height and intensity of anesthesia desired. An unusually tall patient requires increased anesthetic.

For surgery expected to last between forty-five and ninety minutes in the upper abdomen or between one and two hours below the umbilicus, 1% pontocaine hydrochloride solution is used, 0.1 mg. per pound, or 1 mg. per year of age. The larger of the two doses is used unless the child is small for his age. Nupercaine, 0.5%, used when anesthesia will be needed more than ninety minutes above, or more than two hours below the umbilicus, is administered on the basis of 0.01 cc. per pound, or 0.1 cc. per year of age, whichever is the larger amount.

To the calculated pontocaine or nupercaine fluid, an equal volume of

* Spinal anesthesia in children: report based on 350 patients under 15 years of age. Anesthesiology 12:376-387, 1951.

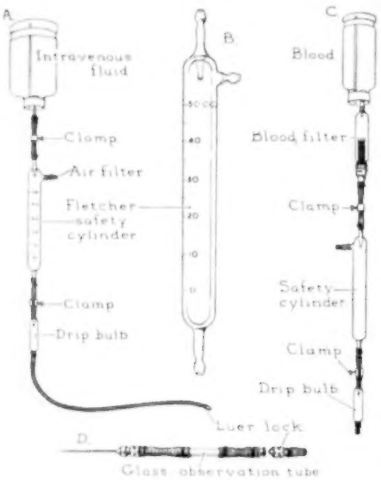
a 5% solution of procaine crystals in spinal fluid is added.

Skin-testing for determining analgesia of children is unreliable and disturbing. The cephalad spread of the material is watched through the progress of paralysis in the anterior or lateral abdominal muscles. Even children as young as 3 years will cough when so directed. The cough demonstrates muscle activity or paralysis. The paralyzed muscles bulge outward and the nonparalyzed muscles contract inward.

Safety Apparatus for Intravenous Therapy

JOHN P. FLETCHER, M.D.*

More accurate control of intravenous administration of drugs and fluids than is possible with the usual drip method may be achieved by insertion of a safety cylinder into the infusion system.



When intravenous fluids are given (Fig. *a*), the safety cylinder (Fig. *b*) is placed between the container and the drip bulb. For blood transfusion (Fig. *c*), the cylinder is inserted between the blood filter and the drip bulb. In either case a clamp is used immediately above the cylinder and kept closed except when filling the cylinder.

The advantages, listed by John P. Fletcher, M.D., of the University of Toronto, are [1] prevention of administration of more than 70 cc., hardly lethal, in case of a runaway, [2] ease of accurate measurement in the cylinder permitting maintenance of the prescribed rate of flow, [3] simplicity of continuous medication with soluble drugs, which are injected directly into the cylinder without crystallization and diluted into 70 cc., [4] control of the rate of blood transfusion, of great value in exchange transfusion, and [5] the possibility of heparinizing the intravenous solution with heparin 1 mg. per 100 cc. and of running the apparatus intermittently if a very slow rate is desired.

* Safety apparatus for intravenous therapy. Pediatrics 7:563-564, 1951.

Immunization of Infants

J. CYRIL PETERSON, M.D., AND AMOS CHRISTIE, M.D.*
Vanderbilt University, Nashville

COMBINED immunization against diphtheria, pertussis, and smallpox should be instituted in early infancy. Typhoid vaccine may also be included in communities where such prophylaxis is advisable.

Primary immunization completed before the sixth month is satisfactory, and avoids the psychic trauma from injections. J. Cyril Peterson, M.D., and Amos Christie, M.D., believe that combined booster injections should in all cases be completed twelve to sixteen months after the primary immunization.

The best time to initiate pertussis vaccination is at the child's first or second visit to the well baby clinic, usually at 4 to 10 weeks of age, depending on the infant's general health. Although this age may not be ideal for diphtheria, tetanus, and typhoid immunization, the use of triple vaccines is justified by the simplicity of giving the injections at one time and the fact that a set routine is easy to complete. The injections should be given only when the child is in good health.

An adequate immunization schedule for currently available vaccines is given in the table. This program should yield a high enough level of immunity to provide protection against the diseases concerned.

A booster injection composed of 10 to 20 billion phase IH pertussis organisms, 4 to 10 Lf units of diphtheria toxoid, and 5 Lf units of tetanus toxoid, with or without typhoid vaccine, should be given twelve to sixteen months after completion of primary immunization. This amounts to one-half the single injection doses of present-day triple vaccines.

PROPHYLACTIC IMMUNIZATION PROGRAM

Injection No.	*Age*	*Preparation*	*Amount*
1	4 to 6 weeks	Pertussis vaccine	20 to 40 billion 0.5 to 1 cc.*
2	8 to 10 weeks	Pertussis vaccine	20 to 30 billion
		Diphtheria toxoid	30 to 40 Lf units
		Tetanus toxoid	25 to 50 Lf units
3	14 to 16 weeks		Same as no. 2
4	20 to 22 weeks		Same as no. 2
5	76 to 80 weeks		½ of dose no. 2
6	60 to 70 months		½ of dose no. 2

* The number of pertussis organisms with the first injection should be balanced to give 100,000,000,000 or more organisms for the total course.

* Immunization in the young infant. Am. J. Dis. Child. 81:518-529, 1951.

The effect of age on response to tetanus immunization is negligible. Tetanus toxoids equivalent to 50 Lf doses given in two equal injections at a three-month interval produce satisfactory primary immunity. A booster injection of toxoid thirteen months after the primary vaccination yields a good immediate response and protection is sustained for more than twenty months.

For smallpox immunization, the skin site is thoroughly scrubbed with ether and the standard multiple pressure vaccination method with calf-lymph vaccine is used. Excess vaccine is removed with a sterile, dry sponge. The mother is instructed to bathe the area daily with soap and water and dry by blotting rather than rubbing. No dressings, ointments, or other applications are permitted. Significant secondary infections are not observed. A small lesion results, leaving a discreet scar.

The risks of typhoid are slight until after the first year, except in some geographic areas.

One cardinal point to remember in assaying immunization is that the ability to respond with high levels of antibody to one antigen does not influence the capacity to respond to another antigen.

Prenatal Immunization

PHILIP COHEN, M.D., HERMAN SCHNECK, M.D.,
AND EMANUEL DUBOW, M.D.*

NEWBORN babies may be protected against whooping cough, diphtheria, influenza, and tetanus by prenatal immunization of mothers. Active immunization of the infant should ensue at 3 to 4 months of age, when the passive immunity has been lost.

Women in the last trimester of pregnancy were immunized against the four diseases by Philip Cohen, M.D., Herman Schneck, M.D., and Emanuel Dubow, M.D., of Beth Israel Hospital, New York City. Blood for titration of antibodies was taken from the mother before immunization was started, and again at delivery. Cord blood was examined at birth, and blood specimens were taken at intervals during several months from the infants.

Over 80% of the mothers had high titers of antibodies. These protective titers were quantitatively passively transferred to the newborn babies and persisted in the infants for at least 3 months. Thus, prenatal multiple immunization seems to protect the newborn baby when effective active immunity cannot be established.

No adverse effects occurred for mothers or babies. Reactions to the inoculations are more severe when the combined vaccine contains diphtheria toxoid than when the diphtheria toxoid is omitted.

* Prenatal multiple immunization. J. Pediat. 38:696-704, 1951.

Vitamin A Poisoning

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SAMUEL H. SILVERMAN, M.D., AND ALBERT E. SOBEL, PH.D.*
Jewish Hospital of Brooklyn, N.Y.

EXCESSIVE amounts of vitamin A may be as dangerous as a deficit of the vitamin.

Local toxic changes occur from saturation of the tissues with vitamin A and may produce alarming symptoms. These disappear rapidly when ingestion of the vitamin is discontinued, report Donald Gribetz, M.D., Samuel H. Silverman, M.D., and Albert E. Sobel, Ph.D.

Since only 17 cases of hypervitaminosis A have been recorded, the syndrome is either rare or infrequently recognized. The symptoms may resemble those of several other disorders, and diagnosis is confirmed only by knowledge of inordinate vitamin A intake and demonstration of high plasma vitamin A level.

Clinical symptoms of vitamin A toxicity usually do not appear until after the first year of life. The relatively late onset of symptoms may be owing to the poor absorption of oily preparations of vitamin A by young infants or because a long latent period is necessary for development of toxic symptoms.

The children are usually brought to the physician because of irritability, anorexia, loss of hair, pruritus, disturbances in gait, and painful soft tissue swellings. Roentgenograms reveal thick cortex of the long bones, particularly the ulnae, which is responsible for the tenderness of the extremities. Increased osteoblastic activity may be indicated by elevated serum alkaline phosphatase levels. The liver may be enlarged.

Vitamin A has usually been given in amounts of 100,000 to 500,000 U.S.P. units daily for several months. Plasma vitamin A levels are high. The vitamin A alcohol level may be a better index of hypervitaminosis A than the total vitamin A level, since the blood vitamin A alcohol represents the vitamin released from the liver and consequently implies the quantity stored.

Despite an initial high level of vitamin A, a strong, prolonged rise in plasma levels may occur after a test dose of 6,000 units of vitamin A per pound of body weight. This rise indicates that body stores are saturated.

Hypervitaminosis A may be confused with the following diseases:

Infantile cortical hyperostosis—No excessive vitamin A intake, age of onset before six months, fever accompanied by high sedimentation rate and leukocytosis, involvement of the mandible, pleural effusion, normal plasma vitamin A level, and failure

* Vitamin A poisoning. Pediatrics 7:372-385, 1951.

of symptoms to disappear when vitamin A is discontinued distinguish infantile cortical hyperostosis from vitamin A plethora.

Congenital syphilis—Although the roentgenograms with congenital syphilis are similar to those with hypervitaminosis A, physical signs and serologic studies allow differentiation.

Leukemia—Transverse bands of diminished density in the metaphyses of long bones, osteolysis, and osteosclerosis are radiographic findings with leukemia not found with vitamin A poisoning.

Scurvy—Swollen, red, bleeding, and spongy gums, and typical roentgenographic changes in the ossification centers and metaphyses during active disease indicate scurvy.

Rickets—Although occasionally subperiosteal bone proliferation is noted with healing rickets, the roentgenographic alterations are at the epiphyseal plate.

Acrodynia—Features of acrodynia which serve to distinguish this disorder from hypervitaminosis A are pink coloration of hands and feet, profuse perspiration, hypotonia, hypertension, loss of teeth and nails, abnormal amounts of mercury in the urine, and lack of roentgenographic bone changes.

Hypervitaminosis D—With vitamin D poisoning, severe anorexia, vomiting, thirst, and constipation appear suddenly. The child is progressively dehydrated, irritable, depressed, and stuporous. Blood pressure is high; calcium and phosphorous are elevated and kidneys damaged.

¶ RUPTURED APPENDIX in a child causing abscess or peritonitis is more effectively treated by aureomycin than by any other antibiotic. If the child is under the age of 5 years, 500 mg. is administered initially and 250 mg. at four-hour intervals until the condition improves. The drug is then given every six hours until fever is gone or symptoms have been absent for five days. Older children receive 1 gm. as a first dose. No deaths occurred with this regimen in 16 cases at the University of Maryland, Baltimore, report Blackburn S. Joslin, M.D., and Miles E. Drake, M.D.

Pediatrics 7:684-690, 1951.

¶ DELAYED SPEECH, whether due to slow development, deafness, emotional trauma, or other causes, requires special training, between the second and third year if possible. At the Orthopaedic Hospital, Los Angeles, the child is put at ease with toys and given a picture book for drill on special sounds, such as *r* in rabbit and bird. Sara Stinchfield Hawk, Ph.D., encourages dramatic hand, arm, and foot movements wth songs, action poems, and games to stimulate speech. If audiomotovisual stimulation fails, the Hill-Young motokinesthetic method is often effective.

GP 3:43-49, 1951.

Management of Infantile Insomnia

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SEPARATION anxiety is a basic cause of the two most common sleep disorders in young children: difficulty in getting to sleep, and waking in the night.

The problem is primarily emotional. Ordinarily the child shows signs of separation anxiety when he raises a fuss only if left alone. Often he exhibits an unusual need to have a parent in sight all through the day.

In planning therapy for the child of six months to four years of age with sleeping difficulties, O. William Anderson, M.D., states that the child's physical status must first be investigated, to determine the possibility of such common sleep-disturbing ailments as pinworms, meatal ulcer, anal fissure, eczema, scabies, and adenoids.

If no physical basis for the difficulty exists, the emotional background should be investigated. Important considerations are the sleeping room arrangements, the parents' attitude, the time wakefulness occurs, and whether the child is left with strangers.

The parents should be told in a concise manner how the problem arises, that, if the child's caretaker is apprehensive, anxious, or tense, the infant perceives the tenseness and feels insecure. Naturally, one way in which a small child manifests his feeling of insecurity is to fear being left alone, especially in darkness. Thus he struggles to stay awake because of dread of the unknown while he sleeps. Tolerance and an attempt to understand the child's sensations are essential to successful therapy.

A small child's feeling of security is enhanced by routine; hence, details of care should be varied as little as possible from day to day. For instance, if a baby sitter is employed, the same person should habitually be hired. A good way to establish a feeling of security with the sitter is to have her visit a few times when the parents are at home.

The child should have a separate sleeping room with a dim light and an open door. The following regimen may then be followed:

The child who is difficult to get to sleep should be put to bed at the proper time. A parent then sits in the child's room with a small reading light and sews or reads. The presence of his mother or father in the room brings the child the security of a protector while going to sleep, yet, since his companion is busy, the child will not assume that he can control his elders by wakefulness.

The parent should remain in the room at least half an hour after the child falls asleep, for if the infant

* The management of "infantile insomnia." J. Pediat. 38:394-401, 1951.

is shamming or wakes and finds the parent gone, the whole effort is worse than useless. The parent should pay as little attention to the child as possible and should not tell him to go to sleep nor arrange the bedclothes even though the child stands up. This regimen must be followed unfailingly and may require several weeks of sittings, but the length of the sittings will gradually shorten after a week or two.

For children who wake in the night, the parent should go to the child and talk softly to show that a protector is on the job.

From the voice, the child learns that the parent is not afraid or angry. With a kiss and an affectionate pat, the child will usually go back to sleep. Only a very disturbed child should be picked up, and then only briefly.

The adult must have some apparent purpose for being in the room, other than reassurance, to avoid having the child realize that his wakefulness and fears are what brought the person to him.

The child who stays awake but is quiet should be left alone. The child who cries should receive no response for half to three-quarters of an hour and then firmly, but not angrily, be told to quiet down. If the child continues crying, a spanking may be in order, but not if the parent has lost his temper.

Sedation has a definite place as an aid when the above steps have been taken, but not otherwise. For the child who gives trouble at bedtime a 0.5-gr. phenobarbital tablet may be taken at dinner. The mother should take 2. For the child who awakes during the night, phenobarbital is given at bedtime.

If the treatment outlined does not meet with success, a bed harness may be tried.

¶ GRANULOMA INGUINALE is effectively treated by intramuscular injections of Chloromycetin. No systemic reactions develop, and the only local effect is tenderness without heat or swelling. A suspension containing 500 mg. in 1 cc. of sterile isotonic saline solution is employed by Fred W. Harb, M.D., Willie G. Simpson, M.D., and Clayton E. Wood, M.D., of the U.S. Public Health Service at Durham, N.C., and Alto, Ga. In most cases, 4 gm. is administered every three or four days to a total of 12 gm., although 1 or 2 doses may be sufficient. In 43 cases observed, infection had persisted for one week to nine years and small to extensive areas were involved. Most lesions healed in three weeks, and in 38 instances no relapse occurred in two to eleven months of observation. In 2 of the 5 cases with recurrence, only 6 gm. had been given in the first course. No resistance to the drug was noticed in the patients who were re-treated, and larger initial doses might have been curative.

J. Ven. Dis. Inform. 32:177-183, 1951.

Hypertrophy of the Interureteric Ridge

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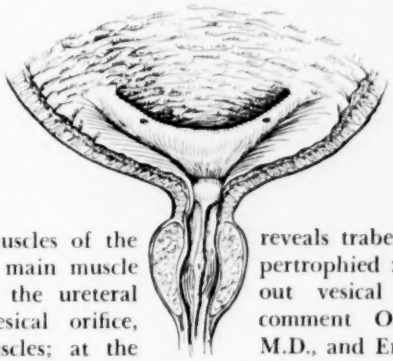
URINARY disturbances, often accompanied by lesions of the vesical orifice, may be caused by hypertrophy of the interureteric ridge. Excision of the ridge with a resectoscope will usually bring relief.

The vesical trigone is a definite structure continuous with the longitudinal muscle fibers of the ureters, superimposed upon the muscles of the bladder wall. The main muscle bundles run from the ureteral orifices to the vesical orifice, forming Bell's muscles; at the vesical orifice, the bundles converge and pass over the posterior edge of the orifice, constituting the uvula vesicae. Some bundles extend medially and interlace with bundles from the opposite side, the upper margin producing the interureteric ridge.

The principal function of the trigonal muscle is to open the bladder orifice during micturition. Hypertrophy of the interureteric ridge is usually the result of obstruction at the vesical orifice and is caused by the difficulty of emptying the bladder against obstruction, especially a narrow vesical orifice.

The dysfunction of the bladder neck is augmented when the size of the muscle is increased by straining. Thus, the more the patient attempts to urinate, the greater becomes the hypertrophy of the interureteric ridge (see illustration).



A diagnosis is easily made when the patient has urinary dysfunction with residual urine and cystoscopic observation reveals trabeculations and a hypertrophied ridge, with or without vesical neck obstruction, comment Oswald S. Lowsley, M.D., and Enrique Porras, M.D.

After spinal anesthesia, the Kirwin resectoscope is passed. The cutting electrode is applied about 0.5 cm. medial to each ureteral orifice, excising first one side, then the other, and finally the middle portion. Extreme care should be taken not to injure the orifices. Little bleeding occurs. Oozing is controlled by the coagulating current. After resection of the ridge, the stenosis or other lesion of the vesical orifice causing the hypertrophy is treated.

A Foley catheter is inserted and left in place for the time ordinarily needed after transurethral resection. The ureters retract slightly.

* The cure of vesical neck obstruction due to hypertrophy of the interureteric ridge in the male. Surg., Gynec. & Obst. 92:701-706, 1951.

Indications for Lumbar Sympathectomy

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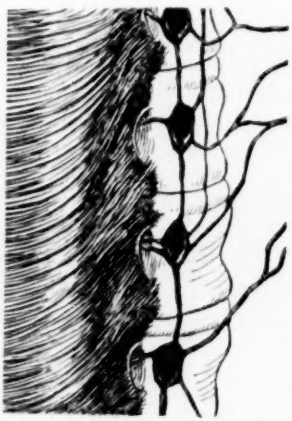

RESECTION of the lumbar sympathetic chain is a simple operation involving little risk. Because of lack of familiarity with the procedure, physicians sometimes fail to use sympathectomy when the technic would be most beneficial.

William H. Moretz, M.D., summarizes the changes to be expected in the lower limbs after the operation as: improvement in circulation, relief of pain, and cessation of sweating. For patients likely to benefit from the procedure, trial may be made of a continuous lumbar paravertebral sympathetic block. Every three to four hours, procaine mixed with penicillin is instilled through an indwelling polyethylene tube in the vicinity of the second lumbar ganglion.

Improvement in circulation—The vasoconstrictor impulses transmitted over the sympathetic pathways are interrupted by sympathectomy, and circulation is thereby improved. Patients with occlusive arterial diseases probably constitute the majority of those for whom the operation is useful.

If vasospasm in the early stages of *thromboangiitis obliterans* is not improved by medical management, lumbar sympathectomy should be done. Although constriction is relatively insignificant in late stages of the condition, sufficient improvement of collateral circulation results from sympathectomy to justify the procedure in many cases. Even if gangrene with Buerger's disease makes amputation unavoidable, a more distal level of severance may be possible if sympathectomy is done, or the amputation may be delayed.

Some patients with *arteriosclerotic peripheral vascular disease* benefit from lumbar sympathectomy. In general, the operation is not advisable for patients over 65 to 70 years old or persons with definite cardiac, renal, or cerebral involvement, massive gangrene, or severe infection in gangrenous or adjacent tissue. Sympathectomy should not be done if the limb is asymptomatic even when arteriosclerosis is severe.

If a patient has severe neuritic pains, intermittent claudication, or pain at rest, but no gangrene, trial of paravertebral sympathetic block

* Indications for lumbar sympathectomy. Am. Surgeon 17:492-507, 1951.

is warranted. If results are equivocal, continuous block, maintained as long as ten days, may be indicative of the effect of sympathectomy. If increased exercise tolerance, relief from night pains, and, occasionally, delayed rise in skin temperature are observed, sympathectomy will probably be useful.

For a relatively young individual without serious generalized disease and with gangrene limited to one or two toes, sympathectomy is justified if a block produces prompt vasodilatation without progression of gangrene. Amputation is done at the same time or a few days later.

Sudden *arterial occlusion* from an embolus or trauma urgently requires blocking of the sympathetic impulses. A single block is usually sufficient to determine the degree of vasospasm and to evaluate the effect of sympathectomy. If patients are seen early enough for embolectomy, a continuous block initiated immediately and maintained for several days may obviate daily single blocks or sympathectomy.

Lumbar sympathectomy improves collateral circulation for many patients with *arteriovenous fistula or aneurysm* in the lower extremity. If the collateral circulation is inadequate after the lesion has lasted for several months, sympathectomy should usually be performed before the arterial lesion is exposed. For very ill patients, a continuous block for several days may improve the condition sufficiently to allow sympathectomy to be performed with relative safety.

Severe *Raynaud's disease* in the lower extremities, extremely rare, warrants lumbar sympathectomy. A slight involvement usually requires only conservative treatment.

Results of sympathectomy for *venous system diseases* vary, but the improvement is greatest when sympathetic activity is increased. The operation is generally disappointing for *postphlebitic ulcers* and *postphlebitic edema*, and should be done only if sympathetic blocks show improvement.

For acute *thrombophlebitis*, blocks release vasospasm and diminish pain, decreasing discomfort and probably accelerating subsidence of inflammation. Recurrent deep thrombophlebitis associated with sweaty feet and epidermophytosis is benefited by sympathectomy, since the cessation of perspiration helps therapy of epidermophytosis.

Pain relief—Many painful conditions of the extremity are improved by sympathectomy. *Causalgia* and other posttraumatic neuralgias, *Sudeck's osteoporosis*, and pain associated with *peripheral vascular disease* may be favorably influenced by the operation, particularly when sympathetic overactivity is noted. Single or continuous block aids prediction of results.

Cessation of sweating—The sweat glands are innervated by fibers from the sympathetic nervous system, hence interruption of the pathway eliminates the stimulus necessary to function. Hyperhidrosis of the feet is rarely bothersome enough to require operation. Usually, however, the cessation of sweating enhances the benefits of sympathectomy performed to relieve pain or to improve the circulation.

Correction of Stress Incontinence

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VAGINAL plastic operations are usually effective as primary procedures for women with urinary stress incontinence. When multiple previous surgery has been done, results are seldom satisfactory, and a suprapubic operation is probably best.

Childbearing, atrophy of the supports of the vesical neck and urethra, and loss of muscle tone after the menopause are the usual causes of stress incontinence. Most patients have ptosis of the bladder so that the micturition position is reached with abnormal ease and the internal sphincter is held open.

Virgil S. Counseller, M.D., finds that careful selection of the appropriate operation for the individual case is essential.

Many women with stress incontinence have associated pelvic conditions such as cystocele, urethrocele, prolapse of the uterus or of a retained cervical stump, menometrorrhagia, small fibroids, or recurring uterine polyps. In most cases, if incontinence is not severe, cure or much relief may be achieved through vaginal plastic repair of the vesical neck and urethra, with or without repair of cystocele, urethrocele, and pelvic floor.

The Kelly operation, a simple procedure adequate for moderate degrees of incontinence, consists of insertion of one or two mattress sutures to tighten the muscle layer in the vesical neck and posterior third of the urethra. A modified Kelly operation, employing a little more suturing, is used in severer cases of incontinence. The Kennedy operation is more extensive.

The results of the three operations are quite similar, and correction of incontinence is achieved in approximately 85% of suitable cases. Because these procedures are relatively unsuccessful as secondary operations, a suprapubic operation is used in such cases to elevate the urethra and vesical neck by a fascial sling, ordinarily taken from the recti and oblique fasciae and sutured beneath the urethra or brought around the urethra in front of the vesical neck. The fascial ends are then reattached over the recti muscles.

If previous vaginal operations have caused extensive scarring, further vaginal procedures are often inadvisable. Incontinence is usually due to fixation by scar tissue of the urethra and vesical neck so that the sphincter cannot function. The anterior vaginal wall should be opened and the urethra and vesical neck separated from the vagina and the posterior surface of the pubis. The structures are elevated by an iodoform pack around the urethra and under the vesical neck for eight to ten days. The pack is replaced by a

* Methods and technics for surgical correction of stress incontinence. J.A.M.A. 146:27-30, 1951.

second one for about a week until the bladder remains elevated and does not reattach to the vagina or pubis. If not seriously damaged by scar tissue, the vesical sphincter will function normally in some cases.

Taking the fascial strips is often difficult if the patient has had lower abdominal surgery, since part of the fascia is scar tissue, which tears easily and gives poor support. Strips obtained by transverse incisions may be too short for satisfactory support of the vesical neck unless removed in a curved fashion extending upward and outward to include the external oblique fascia. If the patient is obese, the fascia is often thin.

Surgical correction of incontinence or prolapse and cystocele should almost never be done if a patient is very old or has crippling arthritis or severe cardiac disease. If only a small cystocele exists or a congenitally short vaginal wall, the patient is not suited to plastic procedure on the urethra or vesical neck. Atrophic contractions of the vaginal walls also preclude such surgery.

Incontinence occurring gradually in the later years of nulliparous women is probably caused by atrophy of the supporting structures or by degenerative disease of the central nervous system. In such cases, a form of muscle training or reeducation may be of more benefit than an operation.

Ovulation after Unilateral Oophorectomy

M. JAMES WHITELAW, M.D.*

WHETHER women have two sound ovaries or only one, ovulation occurs in 99% of all menstrual cycles.

Ovarian function was studied by M. James Whitelaw, M.D., of St. Monica's Hospital, Phoenix, through temperature curves and endometrial patterns of 84 women under 30 years old. Oophorectomy had been done at least eight months before in 42 cases. The other 42 women had intact gonads, had been delivered twelve to eighteen months previously, and had resumed regular menstruation.

Rectal temperatures were taken every morning on arising. In at least 4 consecutive cycles, endometrial suction biopsies were done with a Novak curet not more than six hours after beginning of menstruation.

Most biopsies showed typical progestational endometrium with local necrosis, polymorphonuclear invasion, and well-developed predecidua. A rare sample evidenced no secretory activity. Body temperature agreed fairly well with the endometrium, but a monophasic curve was sometimes associated with secretory or mixed specimens, or unusual curves with natural uterine pattern.

* Ovulation after unilateral oophorectomy, as determined by endometrial biopsy and basal body temperature. Surg., Gynec. & Obst. 92:747-750, 1951.

Biochemical Test for Pregnancy

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The increased excretion of estrone in the urine during pregnancy is the basis for an easily performed, dependable biochemical test, requiring little equipment. The procedure may be done in the office in twenty to thirty minutes.

Estrone contains a phenolic hydroxyl group and is thus sufficiently acid to react with sodium hydroxide to form sodium estronate. This salt is soluble in water but insoluble in chloroform. Other steroids in the urine which might interfere with the test, such as progesterone, remain in a chloroform-soluble state and can be separated. The chemical coupling of 2, 4-dinitrophenylhydrazine to the solution of free estrone in an acid medium followed by the addition of alkali results in a stable brown color. The reagents of the test are standardized to avoid reaction with the smaller amounts of estrone usually found in the urine of nonpregnant women.

Two test tubes are required—a screw-cap tube, calibrated at 2 and 5 cc., and a tube of smaller diameter that will fit within the first and has a hole above the level of the 5-cc. mark on the outer tube.

To 2 cc. of urine in the screw-cap tube is added 2 drops of 0.5 normal sodium hydroxide. After thorough mixing, chloroform is added to the 5-cc. mark, and the mixture is shaken vigorously for at least thirty seconds. The tube is then allowed to stand for about one minute so that an upper aqueous and a lower chloroform layer form.

The smaller tube is slowly inserted. The hole in the tube permits the estrone-containing aqueous layer in the outer tube to flow into the inner tube. The tubes are then separated, the contents of the screw-cap tube are discarded, the tube is rinsed with water, and the solution in the smaller tube is transferred to the screw-cap tube.

Then, 4 drops of 0.5 normal sulfuric acid is added and well mixed. Next, 5 drops of saturated 2, 4-dinitrophenylhydrazine in 70% ethanol not more than twenty-four hours old is added and mixed; the solution is allowed to stand for ten to fifteen minutes. Another 2 cc. of 0.5 normal sodium hydroxide is added. If a brown color persists for two or more minutes, the patient is pregnant.

In over 2,500 tests performed at different months of pregnancy, Garwood C. Richardson, M.D., reports that almost perfect accuracy was achieved; a smaller number of nonpregnant women were tested without error. Occasionally the test was positive when the Friedman test gave false negative results. In 3 cases, the procedure detected pregnancy even before the first missed period. In almost all cases the tests become negative within six weeks after delivery.

The results of the biochemical test are positive with hydatidiform mole and chorionepithelioma, but quantitative studies differentiate the conditions from pregnancy.

* A new biochemical test for pregnancy. Am. J. Obst. & Gynec. 61:1317-1323, 1951.

Common Types of Chronic Rhinitis

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INFLAMMATORY diseases of the nasal mucous membrane are frequent, produce a vast amount of discomfort, and constitute a large problem in differential diagnosis and treatment.

Five definite types are recognizable, according to Darrell G. Voorhees, M.D.

Chronic bacterial rhinitis usually follows a severe upper respiratory infection and may linger for weeks or months. Invasion by *Staphylococcus aureus* results in dry, purulent crusts in the nares. The mucosa is bright red. Airway is adequate but patients have dry stuffy noses, lassitude, headache, and nonproductive cough. Penicillin nose drops, 2,000 units per cubic centimeter without decongestants, are usually effective therapy.

Simple catarrhal rhinitis results from an upset in neurovascular control. The deeper blood vessels are constantly dilated; turbinates are enlarged. Pillow edema is the most important sign. Instrument pressure upon the inferior turbinate readily produces indentation which, unlike true pitting edema, disappears immediately upon release of pressure.

Pools of clear mucus are seen on the floor of the nostril. Mucus is increased in amount and viscosity. Invasion by *Staph. aureus* is common. Patients have shifting stuffiness, worse in bed. Postnasal discharge is severe, especially upon arising.

Decongestant spray, such as small amounts of 0.25% neosynephrine or of 3% ephedrine, produces rapid, pronounced response and may be used at bedtime to assure rest. These drugs should not be employed otherwise because of the resultant excessive drying, unless followed by cleaning with tip suction. Intranasal insufflation of chemotherapeutic or antibiotic powders is also undesirable.

Various causes of chronic nasal obstruction are commonly present. A general medical checkup is indicated because this type of rhinitis may be a sign of more serious, debilitating, systemic disease.

Penicillin nose drops, 2,000 units per cubic centimeter, are used to eliminate the bacterial infection. Vitamin A, 200,000 units daily, is effective to increase mucous membrane resistance; dosage is lowered after one week. When nasal blockage is an obvious factor, remedial surgery is indicated.

Hypertrophic rhinitis usually arises as a complication of unresolved simple catarrhal rhinitis. The long-standing vascular dilatation is complicated by perivascular infiltration of lymphocytes and plasma cells

* A discussion of the common types of chronic rhinitis. Ann. Otol., Rhin. & Laryng. 60:92-107, 1951.

which hampers lymphatic and venous drainage.

True pitting edema develops and venous congestion is found. Local nutritional insufficiency may help produce metaplasia of the surface epithelium and decreased mucous gland secretion.

Nasal stuffiness is the chief symptom. Instead of shifting, the stuffiness becomes persistent and is even worse in the recumbent posture. The thick postnasal discharge causes nonproductive coughing. The mucous membranes are deep red. Stringy mucus clings to the septum and turbinates.

Penicillin, 5 drops four to five times daily, and a suitable eyewash are employed at home. Decongestants are used at bedtime.

For office therapy, given twice weekly, a cotton pack with 5% cocaine and 0.25% neosynephrine is inserted, replaced after ten minutes by a pack with 20% argyrol, 2% ichthyol, and 20% glycerin for fifteen minutes. After such stimulation of the plugged-up mucous glands, the patient can blow out a large amount of material.

The nose is then flushed and cleaned with saline solution and tip suction. Penicillin, 2,000 units per cubic centimeter, is instilled by the Proetz displacement technic.

Occasionally, an autogenous or stock vaccine is helpful. High doses of vitamin A, hyposensitization to offending inhalants, and abstinence from alcohol are important.

Hyperplastic rhinitis may be produced by unresolved hypertrophic rhinitis or by unmanageable allergic vasomotor rhinitis. Polyps and polypoid degenerative changes of the mucous membrane are typical signs. The mucosa is found to be pale and cyanotic.

Painful fissuring and excoriation of the nares are common. Pitting edema is often absent, especially with polypoid development. Polyps are frequently found at the posterior tip of the inferior turbinate and even inside the nasal sinuses. Metaplastic areas of stratified squamous epithelium may arise.

Relief is the aim of treatment since normal nasal physiology cannot be restored. Surgical procedures are indicated, such as polypectomy, trimming the inferior borders of the turbinates, or electrodessication of obstructing turbinates. When proper drainage and airway have been established, office or home irrigation of the nose will prevent pooling of stagnant mucus.

Atrophic rhinitis is often the endpoint in the progression of changes seen in hypertrophic rhinitis. Besides perivascular changes, endarteritis obliterans appears. The surface epithelium is altered to stratified squamous. Mucous glands are lessened. Irreversible loss in nasal function results.

Bacterial invasion is prominent and causes a foul odor. Stuffiness is a symptom even though the nasal passages are wide open. Secondary pharyngitis, laryngitis, and tracheitis occur. Loss of smell is common.

When the examiner can see the nasopharynx by looking into the patient's nose, the diagnosis of atrophic rhinitis is permissible. However, decongestants, apprehension at seeing a physician, or the initial stage of

an acute coryza may simulate this condition.

In terminal stages of the disease, all turbinates are atrophied, the mucosa is shiny and slick, and the interior of the nose is coated with thick, green, putrid crusts.

Treatment is not curative but palliative. Measures should be instituted to substitute for the normal functions of the nose. Cleanliness is achieved with saline irrigations at home and douches with tip suction at the office. Moisture is provided with a few drops employed several times daily of alcohol 5%, glycerin 3%, and sodium chloride 0.9% with scent.

Sinus infection requires additional treatment. Surgery is not advisable unless the condition is largely unilateral, related to a deviated septum.

Bronchoscopy for Resuscitation of the Newborn

RAYMOND S. ROSEDALE, M.D.*

DIRECT bronchoscopic aspiration is a lifesaving procedure when newborn infants cannot breathe because of laryngotracheobronchial obstruction.

Raymond S. Rosedale, M.D., of Mercy and Little Flower hospitals, Canton, Ohio, believes that the direct visual method for restitution of the lower airway should be familiar to all physicians caring for infants and that the necessary instruments—infant bronchoscope, laryngoscope, and fine aspirator—should be available in all hospitals with obstetric services.

The most common obstructive agents are amniotic fluid, mucus, blood, meconium, or vernix caseosa in the small respiratory passages. Other factors are laryngeal web, a curled flaccid epiglottis, congenital stenosis of the larynx, or paralysis of a vocal cord.

A direct, lighted approach, with working accessibility, is superior to blind methods of resuscitation. Bronchoscopic examination permits removal of fluid and other material aspirated during an otherwise normal birth and allows detection of such anomalies as tracheoesophageal fistula and bronchial agenesia.

Anoxemia from foreign material in the upper respiratory tract or from compression of the neck by the umbilical cord is quickly relieved by bronchoscopic aspiration and administration of oxygen, provided the central nervous system has not suffered serious anoxemic damage. Insufflation of oxygen does not greatly alleviate cyanosis of infants with central arrest of respiration, but the measure does temporarily benefit those who have partial bronchial occlusion and atelectasis.

* Bronchoscopy in the newborn. Arch. Otolaryng. 53:393-396, 1951.

The Low Back Syndrome*

THE dynamic musculature of the human frame is a frequent casualty of our cramped, machine-ridden civilization, with low back disorder as a common result.

The name low back syndrome carries the unfortunate implication that one general form of therapy is applicable, whereas skillful evaluation and specific measures are required in each case. In the following discussion, the problem is divided into two categories: [1] the classical pattern of low back disease and [2] conditions in which neurologic changes shift the emphasis to the intervertebral disk.

Low Back Disorders

SAWNIE R. GASTON, M.D.

THE etiology of low back pain is manifold. Diagnosis consists in the exclusion of specific arthritides, infections, and neoplastic diseases, leaving physiologic and mechanical derangement of the motor-skeletal system as the chief consideration, explains Sawnie R. Gaston, M.D., of Columbia University, New York City.

Traumatic acute low back pain usually starts with a sudden, sharp pain when the patient is bending or lifting. Examination to locate the injured tissue is useless in the acute phase, since all movements produce pain. Primary treatment is directed toward relief of paravertebral muscle spasm, the major disability.

Traumatic chronic low back pain may ensue after an acute onset if treatment is inadequate or trauma repeated. The back may decompensate.

Postural low back pain is gradual in onset. Muscle fatigue constitutes the basic cause. Tests to evaluate the strength of the trunk musculature are valuable in diagnosis. The principal therapy is supervised muscle strengthening exercise. A temporary support may be advisable.

Anomalies common to the low back region are spondylolysis, spondylolisthesis, and complete and incomplete sacralization of the last lumbar segment. These may be recognized by use of roentgenograms. Such anomalous conditions, if found, are not necessarily the cause of low back pain and, unless proved responsible, should not be disturbed.

Osteoarthritis is a disease of late adult life usually considered as owing to wear and tear, involving particularly the weight-bearing joints. Patients are vulnerable to change of occupation and trauma, which may precipitate stiffness and pain after rest, with temporary improvement during moderate activity in the day.

An inexact correlation exists between the involvement shown by roentgenograms and the patient's symptoms and signs. The clinical evaluation is more important than the roentgen interpretation.

Marie-Strümpell spondylitis is primarily a disease of youth, but may occur at any age. The condition is

* The low back syndrome. S. Clin. North America 31:529-544, 1951.

a form of spinal rheumatoid arthritis, 6 to 10 times more frequent in men than in women. Onset is usually insidious. In the acute form, with fever, leukocytosis, high sedimentation rate, and severe pain, root as well as back pains appear.

Myositis or *fibrositis* occasionally causes low back pain, probably as a diffuse inflammation of the involved muscles or fasciae.

Peritrochanteric calcium deposits or *bursitis*, involving the deep bursae related to the gluteus maximus, may produce low back discomfort.

Vertebral column tumors are best diagnosed by biopsy. The most frequent benign lesions are hemangiomas and giant cell tumors. Metastatic cancer is the most common malignant growth of the spine; the primary sites, in order of frequency, are prostate, breast, gastrointestinal tract, and thyroid. Considerable bone destruction occurs before malignant disease is evident in roentgenograms.

Treatment of low back pain depends upon adequate diagnosis, searching history, thorough physical examination, and adequate roentgen and laboratory study. The sedimentation rate is the most useful single laboratory test.

To establish the mechanics of onset, the patient should be questioned about the how, when, and why of back pain. In cases of gradual onset and persistent discomfort, a daily calendar of pain related to activity is significant. Often the answers to whether pain occurs before or upon rising, after short or prolonged activity, in sitting, or with change of position, and how rest affects the pain, will help the examiner.

Disk Disorders

EDWARD B. SCHLESINGER, M.D.

Neurologic signs concomitant with low back pain point to intervertebral disk disorders. The disk and limiting ligaments give mobility to the spine at each point of flexion, extension, and rotation and consequently are subject to great stress.

Trauma to the intervertebral ligaments contributes to the muscular splinting and pain in low back disease and constitutes the intermediate stage between low back pain and the intervertebral disk syndrome. As the ligaments weaken, the soft disk material bulges through the weaker zones under high hydraulic pressure.

Rupture almost invariably occurs at the weakest point of the ligamentous sheath at the lateral extent of the canal, near the foraminal exit of the spinal root. Compression of the root adds radicular signs and symptoms to the syndrome complex.

The accompanying table aids in localization of the involved root.

Diagnostic study should include precise anteroposterior, lateral, and oblique roentgenograms of the lumbosacral spine, and careful urinary tract and rectal examinations. If the findings are not determinative, myelography should be performed.

Surgery is indicated in case of unphysiologic stress in which simple root depression by removal of the disk material will give satisfactory relief, finds Edward B. Schlesinger, M.D., of Columbia University, New York City. When disk protrusion and root compression are sequels to structural pathology, fusion must be com-

bined with disk removal for efficient function and comfort.

Medical treatment of intervertebral disk is palliative and aimed at relief of muscle spasm. Myanesin and curare are useful in this respect.

Sensation	*Lesion*
Pain and paresthesia of outer aspect of dorsum of foot	S1 root, L5 to S1 interspace
Pain and paresthesia of great toe	L5 root, L4 to L5 interspace
Pain radiation across midline of anterior thigh toward adduction aspect	Above L4
Depressed Achilles reflex	L4 to L5; or L5 to S1, especially if knee jerk is depressed
Absence of posterior tibial reflex	L5 root, L4 to L5 interspace
Difficulty in regaining erect posture from flexed position	L4 to L5

Parosteal Osteoma of Bone

CHARLES F. GESCHICKTER, M.D., AND MURRAY M. COPELAND, M.D.*

TUMORS histologically similar to myositis ossificans, but with long periods of benign growth usually followed by fatal metastasis, may be examples of parosteal osteoma. This neoplasm, described by Charles F. Geschickter, M.D., and Murray M. Copeland, M.D., of Georgetown University, Washington, D.C., occurs in both benign and malignant forms, with the cancerous type predominating.

Parosteal osteomas occur most frequently between the ages of 20 and 40 years. The tumor is usually found at the lower end of the femur or upper humerus and produces local pain, tenderness, and limitation of motion. The growth originates in extraosseous connective tissue.

Roentgenograms ordinarily show a mass 5 to 10 cm. in diameter, densely ossified, circumscribed, frequently sharply outlined, and occurring outside the bone though contiguous. At operation, the mass is found to be fused with the periosteum, usually encapsulated at the outer margins. After excision, roentgenograms repeated at intervals usually reveal continued periosteal ossification with sclerosis and rarefaction of the underlying bone. In some cases this residual growth is controlled by irradiation, but amputation is often necessary. If cellular changes consistent with fibrospindle-cell sarcoma are found at the periphery of the neoplasm, amputation is indicated at once, since about a quarter of patients die of pulmonary metastases, usually several years after operation.

* Parosteal osteomas of bone: a new entity. Ann. Surg. 133:790-807, 1951.

Treatment of Fractures of Upper Extremity

MILTON J. WILSON, M.D.*
New York Medical College, New York City

EARLY mobilization of joints is important in preventing tendon contracture. As soon as sufficient callus has formed to prevent displacement, Milton J. Wilson, M.D., suggests that the cast be taken off at intervals to exercise the joints and then replaced until bony union is solid.

Hand—Fractured fingers should be immobilized in flexion. Only the injured finger is splinted. Active exercise under supervision is advocated as early as possible. Massage and heat treatments given by the physician are inadvisable for stiff finger joints. The patient should exercise his joints and apply heat by immersing the hand two or three times daily in moderately hot water.

For baseball finger, the digit should be immobilized in hyperextension. Proximal interphalangeal flexion is advisable.

With boutonnière deformity, active extension of the middle phalanx at the proximal interphalangeal joint is lost. The affected finger should be immobilized in extension.

When marginal fractures extend into the interphalangeal joints, the fingers are mobilized in flexion at the metacarpophalangeal and interphalangeal joints.

Transverse fractures of the proximal phalanx usually angulate volarward and, if left unreduced, are likely to incorporate the flexor tendon in the callus. Skin or skeletal traction may be required for oblique or comminuted fractures. Shaft fractures often take from five to fourteen weeks for healing. Bowing results if fixation is removed too soon.

Metacarpal neck fractures give a knuckle-drop deformity. The distal fragment usually points volarward. For correction, the metacarpophalangeal and proximal interphalangeal joints are flexed 90 degrees. Then alignment is effected by backward pressure in the long axis of the phalanx. A posterior molded splint from finger tip to wrist or upper forearm maintains reduction. Motion is commenced in two weeks, complete healing requires at least three.

For Bennett's fracture, a nonpadded cast is applied from upper forearm to the metacarpophalangeal joint, incorporating a wire loop for traction. Reduction is obtained by skin traction with firm pressure against the metacarpal while the plaster dries. The carpometacarpal joint must not be abducted or the metacarpophalangeal articulation hyperextended. Immobilization lasts at least four weeks and the adhesive traction is reinforced occasionally.

Dislocations of finger joints are easily reduced by direct traction,

* Common errors in the diagnosis and treatment of fractures of upper extremity. S. Clin. North America 31:483-449, 1951.

but the posterior dislocation of the thumb at the metacarpophalangeal joint is most easily reduced by avoiding traction. Firm pressure pushing the proximal end of the displaced phalanx palmarward is usually successful; if not, operation is necessary.

Satisfactory therapy of Colles' fractures requires: [1] traction, [2] forcing the wrist into ulnar deviation to overcome shortening of the radius, and [3] flexion of the wrist and molding of the dorsally displaced fragments. The cast is applied with the wrist in flexion and ulnar deviation. Plaster extends only to the distal palmar crease. This allows active exercise and use of all fingers. Finger motions, though painful, should be insisted upon.

Complete splinting of three to four weeks is mandatory. Thereafter the cast is removed weekly for exercise and physiotherapy. If the cast is removed too early, deformity returns.

Forearm—Displaced fracture of the shaft of the ulna should always arouse suspicion of accompanying fracture or dislocation of the radius.

The combination of luxation of the radial head with a fracture of the ulnar shaft is Monteggia's fracture. Axial traction accompanied by pressure on the radial head will sometimes reduce the dislocation and correct the ulnar displacement. Many cases require open operation. The cast should maintain the forearm in full supination.

Elbow—Myositis ossificans and periarticular adhesions are elbow fracture complications preventable by diligent aftercare. Perfect anatomic reposition is essential without massage or forceful or passive manipulation—only active motion.

When fixation apparatus is removed, active exercise is necessary. The patient must be seen again and again for repeated instructions, encouragement, and estimation of progress.

Shoulder—Dislocation of the shoulder is usually anterior. Continuous traction with the elbow extended and arm slightly abducted produces good results. Traction is applied for three to five minutes until the muscles relax satisfactorily. The humera head is then slipped back into place with a slight rotary motion or gentle pressure with the thumb.

Immobilization for three weeks reduces the likelihood of recurrence. Gentle, active, swinging exercises done frequently every day, beginning at two to three weeks, will prevent stiffness.

¶ OPHTHALMIA NEONATORUM can be prevented as effectively with 0.5% aureomycin borate as with 1% silver nitrate. Aureomycin causes no inflammatory reaction. Since pyogenic infection occurs fairly frequently despite prophylaxis with either drug, Samuel G. Clark, M.D., and Arthur M. Culler, M.D., of Ohio State University, Columbus, suggest that mothers cleanse the babies' eyes with penicillin or aureomycin during the first few weeks of life to reduce incidence of purulent infection.

Am. J. Ophth. 34:840-847, 1951.

Ocular Indications of Multiple Sclerosis

J. C. YASKIN, M.D., EDMUND B. SPAETH, M.D., AND ROBERT J. VERNLUND, M.D.*
University of Pennsylvania, Philadelphia

SUDDEN onset of visual disturbances in a young adult should always arouse suspicion of multiple sclerosis. No ophthalmic symptom, however, is pathognomonic of the disease.

Since no specific therapy for multiple sclerosis has yet been found, the diagnosis should never be made until every condition amenable to treatment has been excluded.

The ocular symptoms of multiple sclerosis are frequently early, and always prominent. In a study of 100 cases, J. C. Yaskin, M.D., Edmund B. Spaeth, M.D., and Robert J. Vernlund, M.D., found that 27 patients had ocular manifestations as the first indication of disease. At the time of hospital study, 56 had ocular abnormalities.

Initial ocular symptoms may consist of blurred vision in one or both eyes, slight to complete blindness, double vision, or difficulty in focusing. These symptoms may be transient. The time interval between initial ocular symptoms and other manifestations of multiple sclerosis may vary from less than a year to several years. The average period is from one to about three and one-half years.

One or more of several types of abnormalities may be found on examination:

Changes in pupils—Anisocoria, poor reactions to direct light stimulus, or Argyll Robertson pupils may occasionally be observed. Pupillary changes are more common in other diseases of the nervous system, especially syphilis and toxic states. Brain tumors and local conditions of the eye may also be associated with pupillary abnormalities.

Extraocular palsies—Diplopia may result from paresis of one or more of the extraocular muscles. Disturbances in convergence and paralysis of conjugate gaze may be found. When diplopia is the initial symptom, lues, early space-taking lesions, infections, myasthenia gravis, thyrotropic exophthalmos, and intraocular space-taking lesions should always be excluded before considering multiple sclerosis.

Nystagmus—In 34% of patients, nystagmus was found and was horizontal, horizontal and vertical, or rotary. Pure vertical nystagmus was not observed. Other conditions with which nystagmus frequently occurs are drug toxicity, Ménière's syndrome, and posterior fossa tumors.

Changes in visual fields and visual acuity—A decreased visual acuity is frequently noted without visible changes in the fundi. Thus, the classical statement relative to retrobul-

* Ocular manifestations of 100 consecutive cases of multiple sclerosis. Am. J. Ophth. 34:687-697, 1951.

bar neuritis, "neither the patient nor the examiner sees anything." Retrobulbar neuritis is most often caused by multiple sclerosis but may result from other conditions such as paranasal sinus infections and exogenous poisons. Changes in the fields of vision occur as central scotomas, paracentral scotomas, or generalized field contractions.

Changes in fundi—In over half the patients, changes were noted in the optic nerve disk. Temporal pallor is the most common finding. Diffuse pallor, definite optic atrophy, and papillitis are less frequent. Frank optic atrophy is uncommon with multiple sclerosis.

Spinal fluid examination is of little aid in the diagnosis of multiple sclerosis. Only 23 of 82 patients had an abnormal colloidal gold curve. In 26 cases the protein was over 60 mg. per 100 cc.

Pneumoencephalography may reveal evidence of nonspecific cortical atrophy. Spinal myelography may be necessary to exclude cord tumors or disk when no abnormalities appear above the spinal cord level.

Aureomycin for Hidradenitis Suppurativa

LOUIS T. WRIGHT, M.D., AND ASSOCIATES*

ALTHOUGH advanced hidradenitis suppurativa has heretofore been treated by surgical measures, good results may be achieved with aureomycin. The lesion, often confused with anorectal fistula or pilonidal sinus, is a chronic inflammatory disease of the skin and subcutaneous tissues, usually pyogenic, affecting the areas in which apocrine sweat glands are situated.

Louis T. Wright, M.D., Robert S. Wilkinson, M.D., Herbert Schreiber, M.D., and Robert Turell, M.D., describe 2 recent cases at Harlem Hospital of New York City.

As a preliminary to surgery, a patient who had had hidradenitis suppurativa for seventeen years, with numerous discharging sinuses in the perianal area and over both buttocks, was given a diet high in proteins, vitamins, and calories and 250 mg. of aureomycin every six hours. After three days, the amount of discharging purulent material had greatly decreased. Aureomycin was continued for thirty-two more days, until the patient had received a total of 35 gm. Pain had then ceased, and the only discharge was a little serous fluid from one sinus. In about five months, a discharge recurred from the lesions of the buttocks but was promptly corrected by aureomycin.

A second patient given aureomycin therapy was much improved after four days of treatment.

* Hidradenitis suppurativa treated with aureomycin. Harlem Hosp. Bull. 4:35-37, 1951.

Medical Forum

Discussion of articles published in MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Value of Banthine for Peptic Ulcer*

Comment invited from
Joseph B. Kirsner, M.D.
Francis E. McDonough, M.D.
Keith S. Grimson, M.D.

► TO THE EDITORS: The clinical study by Drs. Gordon McHardy, Donovan C. Browne, Edwin Edwards, and Frank Mareck and Swan Ward is a good appraisal of current experience in the use of Banthine for peptic ulcer.

Banthine incorporates the pharmacologic actions of both atropine and the tetraethylammonium compounds, without too much of atropine's stimulating effects upon the central nervous system or TEA's hypotensive properties.

Numerous investigators have reported inhibition of gastric secretion when Banthine is given intramuscularly; the effects of orally administered medication appear less well documented. In our laboratory the intramuscular injection of quantities as small as 0.04 mg. per kilogram of body weight eliminated the free acidity up to four hours. However, 50 to 100 mg. of Banthine by mouth did not effectively inhibit gastric secretion in patients with duodenal ulcer. Histamine and insulin-stimulated gastric secretion likewise were not suppressed.

It has been my impression that many of the clinical studies with Banthine have not been well controlled and that side reactions have not received sufficient emphasis. We, and undoubtedly others, have observed recurrences of peptic ulcer during continued Banthine therapy. Indeed, my colleague, Dr. E. Levin, has been unable to prevent anticipated recurrences of peptic ulcer in some cases by the prior administration of Banthine. Dryness of the mouth is frequent and the other effects noted by Dr. McHardy and associates are not uncommon.

Banthine seems to be a helpful adjunct in the management of peptic ulcer; it certainly does not solve the problem. Its most important role may be as a forerunner of newer and more effective cholinergic blocking agents, a number of which are already available for clinical study; others are in the process of preparation. Several effectively inhibit gastric secretion in man with perhaps fewer side effects. No evidence at present indicates that these agents induce the physiologic effects to be expected from complete vagotomy. Nevertheless, they represent progress in ulcer

*MODERN MEDICINE, June 1, 1951, p. 69.

therapy and may permit a more liberal regimen of diet and antacids in some cases.

JOSEPH B. KIRSNER, M.D.
Chicago

► TO THE EDITORS: Our experience with Banthine in treating patients with peptic ulcer in the Lahey Clinic is limited to those with chronic, recurrent, often complicated duodenal ulcer. We agree with Dr. Gordon McHardy and associates that Banthine facilitates pain relief when added to conventional medical ulcer programs, but we have not been inclined to liberalize the patient's diet or decrease adjunctive alkali therapy.

In evaluating the effect of Banthine added to the conventional ambulatory ulcer programs of 100 patients with chronic duodenal ulcer, we found 11% unable to continue the drug because of unpleasant side reactions. Fifty-nine per cent have not developed a recurrence of ulcer symptoms while on maintenance doses of Banthine plus conventional therapy during a period of time when recurrence could be expected based on the frequency of recurrence before the addition of Banthine; 30% did develop recurrences and although, in the majority, the recurrent symptoms were less severe, some patients suffered bleeding, penetration, and obstruction while taking Banthine in therapeutic doses.

The dose of Banthine most frequently used by us is 50 mg. after each meal and at bedtime, but the amount must be varied according to the patient's symptomatic response and tolerance.

We believe that Banthine is a valuable contribution to the conventional treatment of chronic duodenal ulcer but it does not supplant the conventional methods. In some patients, complications or intractability will continue to develop, best treated by surgical means. This result is to be expected in treatment of a clinical entity with unknown etiology and for which therapy must be individualized according to the severity of symptoms and variety of pathologic changes manifested clinically by such complications as bleeding, obstruction, penetration, or perforation.

FRANCIS E. MC DONOUGH, M.D.
Boston

► TO THE EDITORS: Since we first tested Banthine as a treatment for peptic ulcer in May 1949 its value has been established, but the reasons for the beneficial effects have not as yet been entirely understood. Certainly the drug consistently reduces gastric motility for periods of three to four or five hours, usually reduces the volume of gastric secretions, and often reduces the acidity of these secretions. However, relief of pain cannot be attributable only to these effects and is not caused by interference with visceral afferent pain pathways. Decrease of turgescence of gastric mucosa is one of several alternate explanations.

Although our experiences since 1949 with many ulcer patients parallel those described by Dr. Gordon McHardy and associates, it does seem that the dose range recommended, 50 to 200 mg., varies too widely. In our experience, 50 mg. is not enough

to produce the desired therapeutic effects. We use this amount only as a maintenance dose after healing or quiescence of ulcers is achieved. In our experiments, 100 mg. was the optimum amount for therapy; 150 or 200 mg. was used for test doses during the early studies but was abandoned as being too large for safe and routine use.

Banthine is a curariform drug in lethal doses, a ganglionic blocking drug in moderately large doses, and a selectively parasympatholytic or anticholinergic drug, causing minimal interference with the sympathetic nervous system and circulation, in the 100-mg. amounts selected for usual use.

I rather fear that the recommended 150- and 200-mg. doses at bedtime may produce untoward effects, particularly in those patients who have coronary heart disease or cerebral vascular disease.

It would seem wiser to have the patient wake during the middle of the night to take 100 mg. and then take subsequent doses of 100 mg. every six or every four hours during each twenty-four-hour period.

Alternately, enteric-coated tablets, which will soon be available, could be used at bedtime to effect the appropriate pharmacologic action during the night.

Appreciation should be expressed to the authors for their fine paper and their interest in the study of Banthine. We agree with them that other similarly acting agents now under study may prove as valuable, or more valuable.

KEITH S. GRIMSON, M.D.

Durham, N.C.

Breast Feeding*

Comment invited from
Owen H. Wilson, M.D.

► TO THE EDITORS: Dr. Milton I. Levine has made an eloquent appeal for breast feeding. Granting the classic contraindication for breast feeding too evident to mention here, the most important indication for breast feeding is the anxiety of the mother to nurse, and this could be furthered greatly by suggestion from the obstetrician and the nurse, who too often regard the baby as merely a by-product of the OB ward. The decision to breast feed is generally made before the pediatrician is consulted.

With a little encouragement, most women want to nurse their babies. Since the advantages of breast feeding, namely, inherited immunities, adjustment of food, and the psychic effects, are largely seen in the first few months, would it not be well to limit the time of breast feeding to four or five months?

In view of the modern economic conditions, it might be well to begin one artificial feeding at a very early age. This lessens the strain upon the mother and protects against accidents, such as maternal illness.

Even a few weeks of breast feeding will facilitate the adjustment of foods, and those of us who are old enough to recall the awful epidemic of bacillary dysentery will remember the immunity of even partially breast-fed babies.

OWEN H. WILSON, M.D.

Nashville

*MODERN MEDICINE, July 1, 1951, p. 77.

Postgastrectomy Syndromes*

Comment invited from
M. E. Steinberg, M.D.
Alfred Hurwitz, M.D.
Thomas E. Machella, M.D.
Frederick M. Owens, Jr., M.D.

► TO THE EDITORS: The disturbances and annoying symptoms that are not infrequently encountered after subtotal gastrectomy have been ably presented by Messrs. Charles Wells and Richard Welbourn. An equally thorough review of the nutritional problems following total gastrectomy is to be found in the article by Dr. C. Marshall Lee, Jr. It is gratifying to note that the British physicians discuss "Postgastrectomy Syndromes." Difficulties arising after gastrectomy may be too intricate to be explained by one single cause such as dumping, variation in the blood sugar level, reflux of enteric contents into the gastric remnant, jejunitis, allergic manifestations, and so on.

These disabilities encountered in gastrectomized patients, and which are not related to the presence of a jejunal ulcer or jejunitis caused by acid gastric juice, may be considered conveniently as those which arise either from loss, alteration, or disturbances of function inherent in any method of gastrectomy and also those which are ingrained in some variation of the established gastrectomy operation or are caused by errors either unwittingly committed or from unpredictable variations following a well-planned method. Since postgastrectomy symptoms and disabilities caused by loss and alteration of function frequently merge and overlap with those due to faulty operations, the patient's symptoms must be evaluated accordingly.

The deleterious effects from regurgitation of pancreatic juice and bile into the gastric remnant have not received deserved attention. Excessive reflux of the highly irritating enteric contents into the gastric remnant or esophagus not infrequently is the only major disability in the gastrectomized patient. In the September 1940 issue of *Surgery, Gynecology and Obstetrics,* I called attention to the fact that prevention of regurgitation into the gastric remnant might conceivably be an answer to some of the disappointing results after gastrectomy. In 1934, I published studies on the role of spasm in the etiology of peptic ulcers. A large jejunal lumen was created by the anastomosis of two jejunal loops in a parallel direction. The gastric remnant was then anastomosed to the jejunal sacculation. This operation was first applied in 1943 in a patient with an extremely narrow jejunal lumen for whom it was feared that a conventional anastomosis would result in emptying difficulties.

Not until 1946, after I had under my care several gastrectomized patients whose main disability was nausea, anorexia, and frequent vomiting of bile-stained contents, did I resolve to give this operation a trial. At first the double jejunal lumen, gastrojejunal anastomosis, was applied with caution in only an occasional patient commensurate with special indications. The appearance of the completed anastomosis, with the flaring of the afferent and efferent

*MODERN MEDICINE, June 15, 1951, pp. 89, 93.

bowel loops from the crotch of the newly created sacculation, resembles a pair of pantaloons.

The pantaloons method of gastrojejunal anastomosis functions as an entero-entero-anastomosis and assures a freer passage at the gastrojejunal stoma than any of the conventional types of anastomosis. The valve fashioned at the gastrojejunal stoma prevents reflux of the highly irritating enteric contents into the gastric pouch. The long entero-entero-anastomosis furnishes an added storage space. The contractions of the jejunal walls of the jejunal sacculation move the food contents back and forth, thereby assuming a measure of churning function which is lost by the removal of the distal motor part of the stomach.

I have employed the pantaloons method of gastrectomy in 146 patients with ulcers and in 15 with disabling postgastrectomy symptoms without mortality. Among 19 patients with carcinoma of the stomach also subjected to a subtotal gastrectomy by the pantaloons method, there was 1 mortality. There were 6 total gastrectomies for cancer by the pantaloons procedure without a mortality; 1 patient operated upon for gastric hemorrhage succumbed from uncontrollable bleeding from esophageal varices.

A few of the patients operated upon by the pantaloons method have minor annoyances such as inability to tolerate sweets or large meals. I have knowledge of only a single patient who has not benefited by this operation, a confirmed psychoneurotic who had 4 previous unsuccessful gastric operations. One of the earliest patients operated upon by the pantaloons method for a duodenal ulcer developed a bleeding jejunal ulcer.

The most promising results were obtained in 14 patients who were hopelessly disabled and who had become invalids after some conventional type of gastrectomy. All of these either completely recovered or were impressively improved. One of the patients, a young physician, had had 4 previous operations. He was not able to tolerate food, had lost nearly 60 lb., and had frequent bilious vomiting. He has resumed his practice and is completely satisfied with the results of the operation. A long jejunojejunostomy immediately below the gastrojejunostomy had not prevented bilious vomiting.

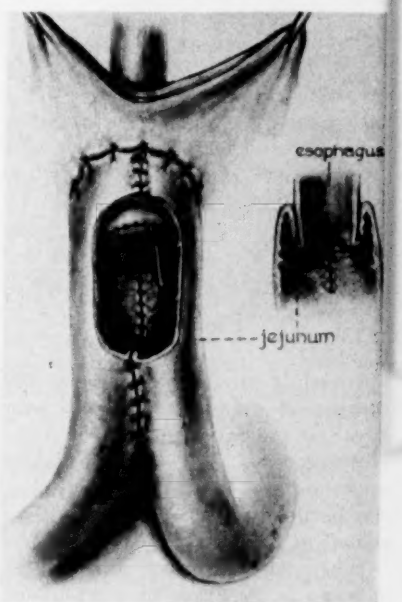

Figure 1

The pantaloons anastomosis is particularly adaptable for total gastrectomies (Fig. 1). It allows a wide area of serosal approximation without producing a stenosis in the emerging jejunal loops or at the esophagojejunal anastomosis.

Overlapping of the jejunal walls around the esophagus also forms a valve which prevents reflux of enteric contents into the esophagus. A long jejunojejunal anastomosis creates a large storage space. Partial gastrectomy by the pantaloons method is shown in Figure 2.

I consider C. Marshall Lee's experience with transposition of a segment of colon as an interesting and

Figure 2

worth-while attempt to improve the nutritional status of patients who have lost the function of a reservoir. However, this is a time-consuming operation and its ultimate usefulness can be determined only by a longer period of observation.

When one considers the radical changes in function brought about by partial or total gastrectomy, the surprising fact is not that the occasional patient is disabled but that most gastrectomized patients operated on by various methods are free from serious annoying symptoms and disabilities. No type of gastrectomy can be expected to abolish all symptoms and disabilities of the postgastrectomy side effects. However, in actual experience with 184 gastrectomies by the pantaloons method I know of only 1 patient, a psychoneurotic, who has not benefited.

It is my opinion that the pantaloons method will prove more successful than the conventional method in preventing some of the postgastrectomy syndromes.

M. E. STEINBERG, M.D.
Portland, Ore.

►.TO THE EDITORS: I believe that not all of the many causes of the so-called postgastrectomy syndrome are of a truly organic nature. The main organic reason can be attributed to rapid distention of a loop of small bowel. This phenomenon may arise in the afferent loop but can be obviated for the most part by the surgeon's employing a short retrocolic loop and the Hofmeister modification of the posterior Polya operation. Since employing this technic, it is unusual to see any barium in the afferent loop during a postoperative gastrointestinal series.

If, on the other hand, the abnormal reflexes are set up by rapid distention of the efferent loop, a simple medical regime should be tried. This therapy consists of eating a small amount of food (6 to 8 mouthfuls) slowly, followed in twenty min-

utes by slow ingestion of the rest of the meal. The emphasis should be placed on eating small amounts of food at a slow or even intermittent rate. The patient should also recline, if possible, for one-half to one hour after meals.

Rapid distention of the small bowel as an etiologic factor in this syndrome seems to be a more tenable theory than the blood sugar level, which can be high, low, or normal in many of these patients. Surgery should be considered only when there is clinical and roentgen evidence of obstruction.

ALFRED HURWITZ, M.D.
Newington, Conn.

► TO THE EDITORS: The types of undesirable manifestations and the responsible mechanisms which may follow subtotal gastric resection are several. Some occur as a result of an unsatisfactory gastroenterostomy arrangement, frequently because a satisfactory reservoir function is lacking.

Reoperation in some of our cases, with restoration of reservoir function, has resulted in the disappearance of troublesome symptoms. In each instance of reoperation, the type of surgery was decided after fluoroscopic demonstration to the surgeon of the anatomic and functional faults in the existing gastroenterostomy arrangement.

The procedure performed also depended on the size of the gastric remnant. When the remnant was thought to be of adequate size, simple reduction of the size of the stoma sufficed. When the gastric remnant was small and the ingested barium entered the afferent loop, an enteroenterostomy was undertaken, the opening in the afferent loop being made in its most dependent position. When the remnant was small and the barium entered the efferent loop, both jejunal limbs leading to the gastric remnant were brought into close approximation and a communicating full-length slit was made between the two; thus a large pouch consisting of gastric remnant and jejunal limbs was created.

One wonders why the surgeon does not always obtain a satisfactory result in the first place. I have purposely stood by and watched him perform the various steps just to see what he does that results in an undesirable arrangement. I always walk away, no wiser, but respectful of the fact that he gets good results as often as he does.

Several thoughts do occur, however. In the first place, it is common experience that, in many cases, some of the troublesome postprandial symptoms following gastric resection are lessened when the patient lies down. Gastric surgery is performed with the patient in a supine position, while most individuals spend their prandial and postprandial hours in the erect or sitting position. The position of the stomach in the abdomen depends to some extent on the axis of the body of the patient. The gastroenterostomy arrangement should be such that the desired functional result is obtained for the erect or sitting position.

Secondly, the surgeon should consider the possible effect of traction of abdominal viscera, especially a full colon, on the patient's gastroen-

terostomy arrangement in the erect position.

Finally, it is probable that the incidence of postgastrectomy complications would be significantly reduced if each surgeon did the following:

Prior to surgery, observe fluoroscopically the variations in position of the barium-filled stomach in relation to changes in posture.

During the operation, take special pains to preserve reservoir function in the gastroenterostomy arrangement for the erect position of the patient.

Following the operation, reexamine with fluoroscopy the gastroenterostomy arrangement, correlate what is seen with the presence or absence of symptoms, and alter the technical procedures in subsequent patients accordingly.

The latter practice has produced a very low incidence of postgastrectomy complications in a group of patients so handled.

Once postgastrectomy complications have occurred, each patient should be dealt with as an individual problem. Careful inquiry into the nature of the symptoms and their relationship to type and quantity of food should be made. Relationship of symptoms to bowel habits, if any, should be ascertained. Occasionally, distention of the splenic flexure of the colon has interfered with the proper functioning of a gastroenterostomy arrangement; improved bowel habits have then resulted in a disappearance of the troublesome symptoms. Observation of the behavior of ingested barium meal is especially important.

When undesirable sequelae consist of early postprandial dumping symptoms, most patients will be benefited, if they cooperate fully, by omitting fluids from meals or by a rearrangement of the diet to exclude food substances that exert high osmotic pressure. Drugs with varied pharmacologic actions, such as atropine, Urecholine, or Dibenamine, have been used prior to meals with varying degrees of success. The trial of drugs is worth while because at times a gratifying result will be achieved. One may have to adjust dosage and time of administration.

At times nothing seems to work, and in such instances one should investigate the emotional or psychogenic make-up of the patient. Some will not admit improvement because of the desire to continue to receive disability pensions. In such cases, actual observation during and after ingestion of a meal is important.

THOMAS E. MACHELLA, M.D.
Philadelphia

► TO THE EDITORS: Following subtotal gastrectomy, symptoms of one sort or another are noted after ingestion of food in a high percentage of patients.

Experimental evidence and clinical experience seem to indicate that the symptoms are somewhat, though not entirely, dependent upon the extent of resection. The method of reconstruction does not seem to have any significant effect upon the development of postoperative symptoms. That distention of the stomach remnant and small bowel is responsible for the symptoms in most cases is accepted by the majority of individuals interested in this field.

In our hands, good results in preventing postgastrectomy symptoms have derived from a program in which:

- The operative procedure is thoroughly discussed with the patient so that he will clearly understand what has been done.
- The dietary regimen is laid out strictly so that the patient understands his restrictions and the reason for them.
- Meals are limited to that amount of food which can be taken at one sitting without distress. This may mean eating even five or six times a day.
- Fluids (milk, water, tea, coffee, etc.) may not be taken with the meal.
- The patient must stop eating if he begins to feel full.
- Food must be chewed well. Patients are admonished to spend 3 times as long as usual eating a meal, for all ulcer patients eat too rapidly and careful mastication of food, particularly for the postgastrectomy patient, aids digestion.

In case of total gastrectomy it is recommended that a long gastroenterostomy be made between the afferent and efferent loops. This should extend from just below the esophagogastric stoma to below the transverse mesocolon. A reservoir for food is created. This tends to reduce incidence of postgastrectomy symptoms after total gastrectomy.

FREDERICK M. OWENS, JR., M.D.
St. Paul

Progress in Urology*

Comment invited from
D. A. Duckworth, M.D.

► TO THE EDITORS: Prior to the war it was known that mercury and arsenic poisoning produced clinical anuria and pathologic destruction of the renal tubules.

During the war, the "crush syndrome" was recognized. At autopsy one found the kidneys large and pale. On section, the cortex was pale with a dark congested medulla. Microscopically the damage was predominantly in the distal convoluted tubules.

Numerous conditions have been found to give rise to the above clinical and pathologic changes: [1] transfusion with incompatible blood, [2] burns, [3] heat stroke, [4] toxemia of pregnancy, and [5] sulfonamide therapy.

These changes occur because the kidney has two main circulatory channels, cortical and medullary, as stated by Dr. Fletcher H. Colby. While there is still considerable argument as to what constitutes the true renal circulation, it is accepted by all that there is a decreased blood flow peripherally in the cortex which is sufficient to prevent necrosis but inadequate for the production of urine.

In treating this oliguria or anuria, the danger of overloading the circulation is great. Fluids must be restricted and no patient should be allowed to gain weight. Salt is restricted. When diuresis starts, one must watch chlorides; the patient may need large amounts of fluid and salt.

If there is no diuresis in five to seven days, more radical procedures must be considered, that is, gastric or peritoneal irrigations or an artificial kidney.

As far as is known, no drug has a relaxing effect on the smooth muscle of the ureter.

The thoracoabdominal route is a

*MODERN MEDICINE, Aug. 15, 1950, p. 71.

new approach to the kidney and is perhaps useful in dealing with a large neoplasm. I have had no personal experience in its use.

D. A. DUCKWORTH, M.D.

Toronto

Duodenal Ulcer Following Sympathectomy*

Comment invited from
D. L. C. Bingham, M.D.

► TO THE EDITORS: All who are interested in the results of extensive sympathectomies will be grateful to Drs. Winchell McK. Craig, Carl G. Morlock, and Nicholas C. Hightower, Jr., for pointing out the frequency of dyspeptic symptoms following bilateral thoracolumbar sympathectomy. The mechanism appears to be the release of the parasympathetic supply to the stomach through the vagi from the restraining influence of the sympathetic nervous system.

In our series, which is comparatively small, 1 patient died of a perforated peptic ulcer some eight months after the completion of his second thoracolumbar sympathectomy. We seriously considered division of the vagi and sympathetic nervous systems at the same time, but to date we have not done so.

We do, however, tell sympathectomized patients that symptoms of dyspepsia may develop and we stress the need for reporting this to the family doctor. If symptoms become severe, an ulcer regime, with possibly the administration of Banthine, is instituted.

D. L. C. BINGHAM, M.D.

Kingston, Ont.

*MODERN MEDICINE, Jan. 15, 1951, p. 86.

Peptic Ulcer*

Comment invited from
F. Gerard Allison, M.D.

► TO THE EDITORS: Drs. A. C. Ivy, M. I. Grossman, and William H. Bachrach have presented an excellent summary on peptic ulcer.

It is hoped that the mention of the Palmer acid test will help to popularize this simple inexpensive method—200 cc. of 0.5% nitrohydrochloric acid orally gives pain in 75% of patients with ulcers.

The authors did not dwell on the economic aspects of peptic ulcer, contenting themselves with the word "morbidity." The man whose job is threatened by frequent lay-offs must consider the 2% mortality of subtotal gastrectomy in the best hands pretty good odds. An acquired hatred of milk puddings is also likely to make him envy his gastrectomized friend who could formerly "only lean against the table and groan, but can now eat a haunch of donkey."

Twenty years ago, medical wards were full of ulcer patients taking an only too transitory cure, and surgical wards of patients having gastroenterostomies undone. Gastric resection had a tremendous mortality.

Nowadays the folly of a month's expensive hospitalization semiannually for a relapsing disease has been recognized; many of our bad cases have been cured by gastrectomy, and the commonest reasons for admission of peptic ulcer patients to a medical ward are hemorrhage and obstruction.

F. GERARD ALLISON, M.D.

Winnipeg

*MODERN MEDICINE, Sept. 15, 1950, p. 61.

Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-199

THE CLUE

ATTENDING M.D: The 45-year-old woman in the next room was seen by a neurologist three weeks ago and advised to enter the hospital because of possible right-sided, slow-growing brain tumor. There are, however, great differences of opinion here as to the nature of her disability. She has had pain and stiffness in her neck for three years, relieved by moving or aspirin until nine months ago, when she noticed increasing stiffness and numbness and tingling in the left hand, and progressive weakness in that arm. For the past three months, the left leg has been weak. Six months ago she stopped all housework because of the awkward left side.

VISITING M.D: Please give me the details about the onset of the illness.

ATTENDING M.D: The patient was first seen by an orthopedic surgeon a year and a half ago because of stiffness and pain in her neck and back. She had fallen and hit her neck eighteen months before and had had some throbbing pain in the neck afterward, a little relieved by manipulation and massage. The discomfort was worse at night, rarely present during the day, and seemed to be proportionate to the day's activity. Cervical spine roentgenograms were unrevealing. A diagnosis was made of arthritis and fibrositis. About two months before the patient was admitted to this hospital, chief symptoms were weakness in the left arm and clumsiness with the left hand because of the numbness. Another doctor thought she might have a brain tumor or subdural hematoma and referred her to a neurologist. He found weakness in the entire left side without reflex changes but with an astereognosis in the left hand and a left-sided subjective numbness. The left hand did not feel like the right nor did rubbing the patient's fin-

gers together feel normal to her. She also has left adiadochocinesia, poor coordination with the left arm, and decreased left-hand finger wiggle. He advised hospitalization for study.

VISITING M.D: Was pain ever the predominant symptom?

ATTENDING M.D: No. The sensation was more stiffness of the neck, awkwardness of the left arm, and numbness which at first resembled pins and needles, but later became dull and diffuse.

VISITING M.D: I'll bet at some time or another this woman was believed to be hysterical.

ATTENDING M.D: Correct. The physician who sent her here described her condition as menopausal syndrome with functional weakness of the left arm and doubted that there was any organic cause. However, she insisted on coming here.

PART II

ATTENDING M.D: Examination on admission to the orthopedic service last week did not contribute much. The weakness was described as before, but the examiners found that the numbness seemed to be accentuated when the patient carried objects, particularly in the left hand, and that she dropped things. Extensive laboratory work, including head, chest, and complete spine roentgenograms, revealed nothing abnormal. Neurologic examination was not suggestive. We have asked you to see her because the predominant picture, as I see it, is progressive left-sided weakness with paresthesia.

VISITING M.D: *(After examining patient)* The cranial nerves, fundi, and rough visual fields are normal. The patient is disinclined to move her neck, but the movement does not seem to induce pain. The entire left arm is definitely weak; she cannot hold an object between the thumb and little finger. The weakness is diffuse, involving all muscles. The reflexes are hyperactive and equal, except for the left knee jerk, which is greater than the right. She has an equivocal left Babinski. Has she had a complete examination by a medical specialist?

ATTENDING M.D.: Of course. Results were all within normal limits. So were repeated roentgenograms. The question is whether this is a lesion in the head or . . .

PART III

VISITING M.D: . . . cord. We must do a spinal fluid study at once. *(Spinal tray is brought in.)* Pressure is 200 mm. of water. Pressure on the abdomen causes a prompt rise, but jugular pressure on either side does not affect the level of the fluid. I would say that she has a block and that protein will probably be elevated. This will perhaps be the clue, but we will need a myelogram. An electroencephalogram should be made while we are awaiting the report of the spinal fluid.

ATTENDING M.D: *(Following day)* The electroencephalogram was normal. The spinal fluid protein was 150 mg. per cent. There were only 2 cells.

VISITING M.D: This is a progressive disease without remission. Recon-

structing the picture, we can say that she has had some disease for three years. It seems at first to have centered in the neck and she believes it is related to the fall . . .

ATTENDING M.D: I talked to her husband last night and he says that she complained of neck pain and used a heating pad for three or four weeks prior to the fall.

VISITING M.D: Today I found a definite left Babinski. The case is extremely interesting in that the superficial impression is of a lesion involving the right parietal cortex causing the weakness of the arm and leg and astereognosis. However, all this can be produced by a lesion in the cervical cord and we have evidence of such in the spinal fluid dynamics and elevated protein.

ATTENDING M.D: I talked to her referring physician last night who says he had a spinal fluid study made two years ago. It was entirely normal, but no pressures were recorded, unfortunately.

PART IV

VISITING M.D: We will need a myelogram.

RADIOLOGIST: *(Later)* The myelogram reveals a filling defect, probably a complete block at C-2 or 3, with what appears to be an extramedullary intradural lesion. This is probably a meningioma.

VISITING M.D: Would you call Dr. Smith, the neurosurgeon?

DR. SMITH: *(At surgery)* Laminectomy does not reveal a tumor. There are, however, some dense adhesions between the pia, arachnoid, and dura; exploration up and down does not show any space-occupying lesion. The cord looks normal. The patient has an adhesive arachnoiditis and, as is usually the case, we are left without an explanation of the etiology. *(Pathologist confirms the diagnosis.)*

VISITING M.D: An extremely instructive case: Hemiplegia is not always cerebral hemiplegia; all weaknesses of the arm or leg with pyramidal signs are not the result of supratentorial lesions but may be caused by lesions in the cervical cord. All progressive localized cervical cord lesions are not tumors; this is arachnoiditis. It is possible, but not very likely, that cutting the adhesions will relieve her. It is interesting that early in the course of the disease, the pain was all in the neck, occurred chiefly at night, was relieved by heat and aspirin and, because she was a nervous woman, physicians doubted the organic nature of the disease. Perhaps the most interesting thing to me is that astereognosis is not necessarily caused by lesions in the brain. Paresthesia from lesions in the spinal cord causing faulty perception with the fingers—you will note she dropped objects—may produce an inability to recognize small letters written on the fingers, or to identify objects, or to have 2-point discrimination.

¶ Because of the peculiar, baffling nature of arachnoiditis, communications regarding etiology and treatment and any remarkable cases suitable for Diagnostix will be welcomed by the Editors, *Modern Medicine*, 84 South Tenth St., Minneapolis.—Ed.

Carcinoma of the Bladder

(Continued from page 67)

Establishment of Diagnosis

The final identification of tumors of the bladder usually rests on cystoscopy. Inflammatory reactions, however, may make the diagnosis difficult. Excretory urograms are helpful in excluding primary tumor of the renal pelvis or ureter and may disclose a filling defect in the bladder or a flattening of the bladder wall, where the tumor lies. Hydroureter may result from neoplastic infiltration involving the ureteral orifice.

In questionable cases, diagnosis may be established by a properly taken biopsy. A good sized piece of tissue, including the muscularis, should be removed under anesthesia. Surface snippings are of little value. After the diagnosis has been made, and a biopsy taken to determine the presence or absence of infiltration, rectoabdominal palpation under anesthesia should be made to find the depth to which the tumor has extended into the bladder wall. A rubbery or stony mass in the bladder wall with or without fixation indicates deep infiltration, if the biopsy reveals tumor cells in the muscularis. If no thickening and no mass can be felt with the patient adequately relaxed by anesthesia, the tumor in most cases is not deeply infiltrating.

Methods of Treatment

Evaluation of what different procedures can accomplish in the treatment of vesical neoplasms depends primarily on the preoperative segregation of the tumors according to depth of infiltration and, secondarily, on their size, location, multiplicity, and histopathology.

• *Noninfiltrating tumors*—Benign or malignant papillomas, unless large and inaccessible, usually respond to simple fulguration. Dean advises implantation of radon seeds, with or without electrocoagulation, if the diameter of the pedicle at the base is larger than 1 cm., but not larger than 2.5 cm. Rarely these benign or malignant papillomas are so large that they must be treated transvesically.

In all cases, subsequent examinations must be made every month or two at first. Not every patient will have a recur-

rence, but such has been known to take place even after many years.

Multiple papillomatosis, although noninfiltrating in the beginning, is much more difficult to control. Recurrences are the rule. External radiation and roentgenotherapy have not proved very satisfactory. At present, treatment usually entails complete destruction by suprapubic electroexcision and coagulation, external radiation after recovery from operation, and subsequent fulguration of small recurrences every two to three months. If the recurrences are rapid and extensive, total cystectomy eventually may be necessary.

● *Infiltrating tumors*—The various methods used in attempts to control infiltrating tumors have been uniformly unsatisfactory. The procedures have ranged from extreme conservatism to extreme radicalism; from simple external radiation, on the one hand, through fulguration, electroexcision and coagulation, insertion of radon seeds, segmental resection, and simple cystectomy, to radical cystectomy and pelvic exenteration with removal of retroperitoneal nodes and establishment of a wet colostomy. It is obvious that all these concepts cannot be wholly correct, and all may be partly wrong.

The value of any one method of treatment depends, first, on its efficacy in completely eradicating a strictly localized growth as compared with the effects of other methods upon similar growths; and secondly, on its efficacy in controlling symptoms and affording comfort in the case of incurable tumors no longer confined to the bladder.

External radiation—In general, tumors of the bladder are resistant to external radiation. Even when supervoltage radiation is used, sections taken from the bladder wall subsequently often show residual nests of carcinoma cells.

Fulguration—Simple fulguration is inadequate for most infiltrating tumors because the effective penetration of heat is insufficient for complete destruction.

Electrocoagulation—This procedure produces no spark. A large electrode is applied directly to the tumor, and the point of greatest heat infiltration below the surface is equal to the diameter of the active electrode. Corbus recommends penetration of heat to the point of tolerance of a gloved finger in vagina or rectum. Of his patients, 55% lived more than five years without recurrence, but he makes no clear-cut

statement concerning the depth of penetration of the bladder wall by the tumors so treated.

Electroexcision—This method entails removal of an intravesically projecting portion of tumor flush with the adjacent bladder wall, and then of the underlying bladder wall containing tumor as far down as necessary. Surprisingly enough, vesical mucosa often grows over the widely excavated area and, after a sufficient lapse of time, the area may look clean and healthy. Bimanual pelvic palpation, however, often discloses a residual tumor, sometimes deep in the bladder wall or extravesical tissues.

New outcroppings of tumors can be controlled by repeated excisions at regular intervals. In Flocks's series of 126 cases, in which sections showed infiltration of the bladder musculature, 54% were controlled five or more years. In his series, however, no distinction was made between superficial and deep muscular infiltration.

When the tumor is very extensive or inaccessible, electroexcision can be carried out transvesically, but care must be taken to avoid spilling tumor fragments into the wound.

Application of radium—Topical application has been found less efficacious, more irritating, and more damaging to the bladder than the interstitial use of radon seeds.

Dean advises transvesical insertion of radon seeds to a depth no greater than 0.5 cm. for infiltrating tumors not exceeding 3 cm. at the base. Radon seeds should not be used when the tumor requires implantation within 1.5 cm. of the vesical orifice. If seeds are inserted within 1 cm. of the ureteral orifice, the ureter should be reimplanted into the bladder at a different site.

In Barringer's series of 255 patients treated with radon seeds, the five-year survivals were reported as follows: papillary carcinoma, 52%; infiltrating carcinoma, 23.6%; tumors of grade 1 malignancy, 55%; grade 2 malignancy, 32%; grade 3 and 4 malignancy, 11%. No statement was made concerning the depth of infiltration of these tumors, so it is impossible to make an accurate appraisal of the efficacy of treatment. Many tumors obviously had spread beyond the bladder before therapy was instituted.

Segmental resection—This procedure implies removal of a segment of bladder wall comprising its entire thickness with

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[1] *References on request*

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a margin of at least 1.5 cm., preferably more, around the tumor contained therein. A study of 55 cases of segmental resection at the Johns Hopkins Hospital disclosed satisfactory results when tumors had extended less than halfway through the muscularis. In 14 cases exhibiting superficial infiltration, there were no deaths from cancer of the bladder. Half of these patients, operated upon more than five years ago, have lived without recurrence up to eleven years after operation. In 41 cases showing deep muscular infiltration, there was only 1 survival over five years.

Contraindications to segmental resection are poor surgical risk, tumor of very large diameter, tumor with poorly defined margins, multiple and widely separated infiltrating tumors, tumor involving the vesical neck in the female, and deeply infiltrating tumor, unless the operation is done for palliation in an easily resectable location.

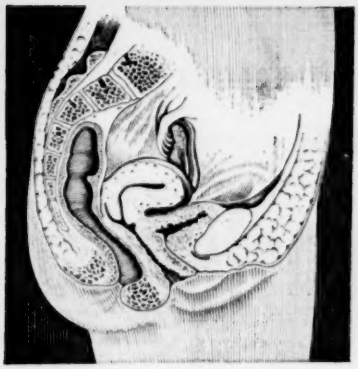
Total cystectomy—The radical cure of infiltrating carcinomas sometimes can be accomplished only by total cystectomy. Despite widespread interest in the procedure, there is no general agreement today on indications for the operation.

Most surgeons agree with Ferris and Priestley that only rarely, if ever, should cystectomy be done for palliation. This implies that the operation should be done only with the expectation of obtaining a cure, and therefore only when the tumor is strictly confined to the bladder wall. Tumors which have reached the perivesical fat are no longer strictly localized.

Of 89 autopsy cases in this group, metastases were demonstrable in 58.4%. If allowances are made for microscopic metastases ordinarily overlooked at routine autopsy, the true incidence of metastases in this group of tumors must be high. Although metastases were demonstrable in 58.4%, the invasion of perivesical lymphatics and blood vessels and direct extension of the tumor through the bladder to involve adjacent viscera and pelvis brought the incidence of demonstrable extravesical spread to 74%.

Moreover, of 29 similar cases surviving total cystectomy at the Johns Hopkins Hospital, 22 patients had metastases within four years. In 3 other cases, five years have not yet elapsed since operation. Of the total group of 35 cases of cystectomy

(Continued on page 134)



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*Hensel, Hubert A.: Postgraduate Medicine, 4:293-296, October, 1950.

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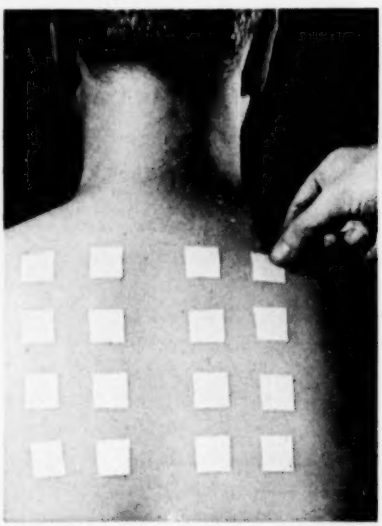

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*Report by Killian Laboratory — summary available upon request.

ADHESIVE

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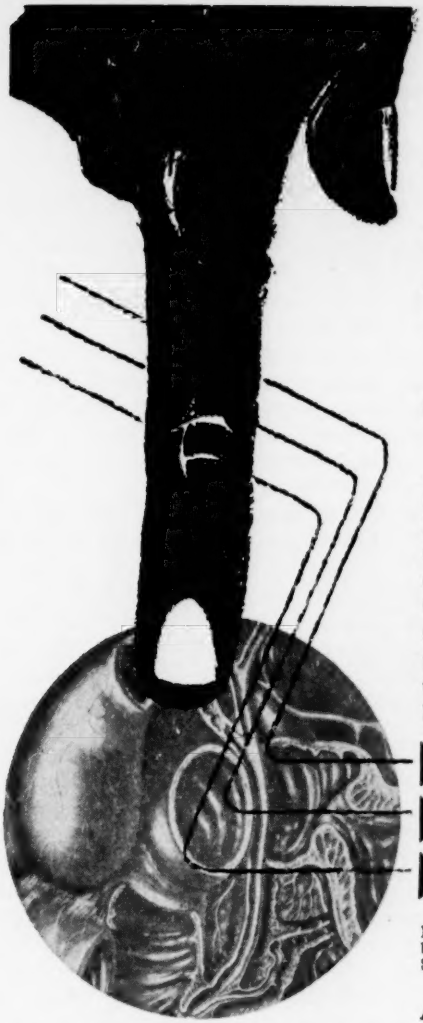
in which the tumor had reached the perivesical fat, only 1 patient has lived five years.

This low survival rate has stimulated interest in the removal of the pelvic lymph nodes together with the bladder and, also, in the removal of the entire pelvic viscera and pelvic peritoneum combined with transplantation of the ureters into the bowel proximal to a colostomy. Whether a truly radical lymph node dissection is possible in this area is open to question. Furthermore, when metastases have occurred, venous invasion has been demonstrated histologically in approximately 40% of cases. In all probability, the incidence of hematogenous metastases is considerably higher.

At present, the prospects for cure by simple cystectomy seem reasonably good only with relatively superficial tumors which have not extended more than halfway through the muscularis, but it is in this group of tumors that conservative procedures have their widest applicability. Only after the limitations of the various conservative methods are conclusively established in the group of tumors infiltrating less than halfway through the muscularis will the indications for cystectomy be clearly defined.

". . . and where it says 'reaction,' I want the patient's, not yours."



the finger
of suspicion
points to

biliary disorders

...when the patient complains of flatulence, indigestion, constipation. Every other patient past age 40 suffers from some form of biliary disturbance,* investigators state. Caroid and Bile Salts Tablets offer simple, effective relief of dyspepsia, constipation and other distressing symptoms of biliary disorders. Functional restoration is aided by—

- stimulation of bile flow
- improved digestion and absorption of foods
- gentle laxation without whipping the bowel

Dosage: 1 or 2 tablets after breakfast and at bedtime with a glass of water.
Sample available on request

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*Rekfuss, M. E.: Penna. Med. J. 42:1335, 1939.

CAROID AND BILE SALTS *tablets*

Specifically indicated in biliary dyspepsia and constipation

Evaluation of Industrial Disability

EARL D. MCBRIDE, M.D.*
University of Oklahoma, Oklahoma City

THE laws provide that the extent of personal injury and the evaluation of disability must be established by medical opinion and testimony.

Since the report of a medical examination of a person making a claim for disability is made to an industrial commission or to jurors of a court of law, the language must be as simple and comprehensible as possible but still include all medical facts involved. The report should cover: [1] how the accident happened, [2] extent and seriousness of the injury, [3] whether the accident was responsible for the disability, [4] the type of treatment given, [5] whether further treatment will be of benefit, [6] how long before treatment may be discontinued, [7] when work can be resumed, and [8] what the partial permanent disability will be.

No matter how outstanding a physician may be in the scientific field, he should try to understand the attitude of the social forces of law and economics before participating in their complex convolutions, believes Earl D. McBride, M.D.

Since a wide responsibility is involved, seemingly insignificant tests or steps in the examination should not be omitted, and the results must be presented clearly to avoid misinterpretation by the court. Often hysterical or insignificant symptoms are overstressed in court, leading to misconception. If such symptoms are unsubstantiated by clinical examination, a statement to that effect should be made.

The temporary period of disability includes active treatment and examinations until the healing period is ended and some kind of work may be resumed. Even then the disability may not be a permanent one.

The readjustment to the physical handicap often requires an extensive period after resumption of labor. Settlement of the claim may be determined long before the final permanent state of disability is reached. Therefore, the eventual permanent disability must be decided upon, rather than the present state. Permanent total disability implies an impairment of the mind or body sufficient to prevent the average person from following a gainful occupation throughout life. Permanent partial disability signifies a lifetime limitation of working capacity in respect to a gainful occupation.

Declaring that a laborer is able to return to work is a matter of opinion, while the actual reemployment is often far from realization. The former employer may refuse reemployment until usual capacity for work is demonstrated, and the laborer with partial disability may be unable to secure a job from a new

(Continued on page 140)

* Disability evaluation. GP 3:82-85, 1951.

For added patient benefits per NURSE-HOURS EXPENDED

SPECIFY DERMASSAGE

→→→→ now *with* HEXACHLOROPHENE

- To help prevent bed sores
- To aid in massage for every purpose
- To promote the patient's comfort

Dermassage confers certain special benefits not inherent in the massage or in all massage adjuncts, for instance:

SKIN LUBRICATION, provided by lanolin and olive oil in a soothing emollient cream, which reduces the occurrence of skin cracks and irritation resulting from dryness.

REFRESHING COOLNESS, produced by true Chinese menthol crystals in liberal proportion. Rapid evaporation and loss of skin moisture are avoided.

BACTERIA REDUCTION with hexachlorophene, effective germicidal agent of low toxicity. Minimizes risk of initial infection; an added protection where skin breaks occur in spite of precautions.

DEODORANT VALUE, supplied by hexachlorophene.

A safeguard against skin discomfort or damage while patient is confined to bed or wheel chair. Used and approved in thousands of hospitals, coast-to-coast, and on the recommendation of doctors, nurses and hospitals to patients returning home.

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employer. Limited education, experience, or skill often handicaps the change to a new field of labor requiring lighter physical capacity. Discouragement and a lack of willing disposition to try are also strong barriers to readaptation.

If the medical opinion is expected to describe a definite percentage of disability when the claim is finally settled, evaluation of the ultimate extent of permanent disability may have to be weighed by the factors of temporary partial disability.

Industrial compensation awards usually are based on amputation values established by law, and partial disability is usually interpreted as a per cent of such values. No schedule is available for partial disability and the loss must be determined through medical opinion. However, the provisions of the statutes are intended to compensate for the loss of wage-earning capacity, and while the disability is evaluated through medical opinion, the court establishes the wage-earning capacity.

Because numerous difficulties have been encountered in establishing standards of evaluating the percentage of partial permanent disability, medical opinion should show sound scientific measuring based upon medical knowledge and training. The exent of disability cannot be measured by vocational loss, since the variation in education, skill, experience, and natural ability is too wide to be comprehended through any medical survey. Disability may not require a change of occupation or wage loss and cannot be based on anatomic or structural loss since, for example, the loss of fingers means much more to a skilled mechanic than to a hod carrier.

The only common ground upon which medical analysis of physical handicaps may stand is the determination of what the patient can or cannot do as a result of the disability. After function has been evaluated, the industrial court may interpret the influence of such function loss in terms of wage-earning loss.

Practical office tests may be used to evaluate the factors by having the individual perform work effort against time. No single factor alone is responsible for disability, and each is therefore given a percentage elevation according to the relative importance to working capacity. A formula expressing the percentage elevations may be as follows:

Quickness of action	10%
Coordination	20
Strength	20
Security	10
Endurance	20
Safety as a workman	10
Prestige of physique	10

When the physical examination has thoroughly revealed the physiologic and anatomic deficiencies resulting from the injury, the effect of each functional factor may be estimated as a percentage of loss for the particular capacity. The total of percentages of loss will represent the partial loss of the part as a whole. Since most awards are based on amputation disability, a partial disability should be compared with what the loss would be in case of amputation.

The medical examiner should be acquainted with the rating schedule of the particular industrial commis-

(Continued on page 144)

All-Around Vitamin Supplementation for the *"active ages"*

3 water-soluble liquid vitamin preparations...

Mead's three Vi-Sols provide flexibility in choice of vitamins to meet the varying needs of the "active ages", combined with an unusual palatability that assures patient acceptance.

	VITAMIN A	VITAMIN D	ASCORBIC ACID	THIAMINE	RIBOFLAVIN	NIACINAMIDE
POLY-VI-SOL each 0.6 cc. supplies:	5000 units	1000 units	50 mg.	1 mg.	0.8 mg.	5 mg.
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Available in 15 and 50 cc. bottles

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Clay-Adams

Sedimentation Rates Valuable Adjunct in Diagnosis

Blood sedimentation tests are well-established laboratory procedures. As long ago as 1797, it was first noted that inflammatory processes increased the sedimentation rate of red blood cells. Explanations of this phenomenon vary, but there is little doubt that sedimentation rates can provide an excellent clue to the presence or absence of an inflammatory process. In some cases, the sedimentation rate is an accurate indication of the severity of the infection.

Generally, changes in sedimentation rate are a more sensitive indicator than body temperature, and many investigators have published detailed studies on these changes in various infectious conditions. The sedimentation rate is a particularly valuable indicator in tuberculosis, pelvic inflammatory disease, rheumatic fever, infectious arthritis, pneumonia, Hodgkin's disease and acute coronary thrombosis.

In general practice, the sedimentation rate has three important practical applications:

1—Indicates the presence of inflammatory process

2—Indicates the activity and progress of the condition

3—Aids in differential diagnosis. Studies have shown characteristic sedimentation rates for conditions whose initial symptoms are nonspecific.

Methods now available for determining sedimentation rates include macromethods, the most popular of these being Wintrobe, Westergren, Cutler and Linzenmeier, in which blood is withdrawn by venipuncture. In the Landau-Adams, which is a micromethod, only a drop or two of blood, which may be taken from the fingertip, is required. The latter is particularly suited for corpulent adults and children, where it is often difficult to do a venipuncture, or in any case where repeated blood withdrawals are contemplated.

Landau-Adams Microsedimentation Apparatus

A leaflet describing the various apparatus and methods for blood sedimentation is available on request.

SPECIAL LITERATURE AVAILABLE

Detailed descriptions on the following may be obtained from Clay Adams on request by number:

Polyethylene Tubing	Form No. 447B
Blood Sedimentation Apparatus	Form No. 448
Gastrectomy Tube	Form No. 119 104
GOLD SEAL Slides and Cover Glasses Price List	Form No. 42PL

Experimental Procedures Utilize Polyethylene

Biologists attending the recent Cleveland meeting of the Federation of American Societies for Experimental Biology showed great interest in the adaptability of polyethylene tubing to various experimental procedures in physiology and surgery. Clay-Adams animal-tested Polyethylene Tubing is available in 23 sizes ranging from inside diameters of .011" to .500"—small enough to cannulize a vein in a bat's wing, or large enough to replace a dog's aorta. Because it is free from tissue reaction, Clay-Adams polyethylene tubing may be left in the body without side reactions.

Newsletter

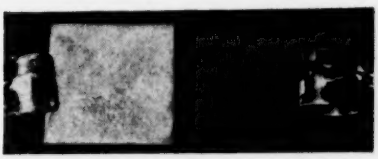
FOR THE MEDICAL AND BIOLOGICAL SCIENCES
Number 5 of a Series

MICRO SLIDES AND COVER GLASSES:

Special Glass, Precision Methods Insure Gold Seal Quality

Careful, accurate and uniform manufacturing processes make Clay-Adams GOLD SEAL Slides and Cover Glasses leaders in their fields.

GOLD SEAL Microscope Cover Glasses are made of special hand-blown glass of extreme hardness. The glass blanks from which the cover glasses are cut come in large, thin sheets of varying thickness. Trained technicians carefully gauge each section of the glass and mark off pieces of uniform thickness. The glass sheets are also inspected for irregularities such as bubbles, striae and cracks. A surprisingly large



UNRETOUCHED PHOTO *shows effect of time on an ordinary (L.) and a* **GOLD SEAL** *cover glass.*

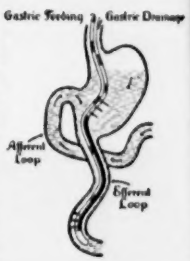
percentage of glass per pound is rejected as unfit. This careful processing guarantees that, within a given thickness, the user gets more cover glasses per ounce.

GOLD SEAL Micro Slides are made to similar rigid specifications. For years they have been the standard for comparison among the country's leading histologists. Each slide is carefully inspected to detect all defects and imperfections. Edges are carefully ground and polished.

Even after years of use, GOLD SEAL Slides and Cover Glasses will not corrode or fog (see illustration).

GOLD SEAL Slides and Cover Glasses are available in various sizes of squares, rectangles and circles.

Simple Gastrectomy Tube for Feeding and Drainage



The Einhorn Simultaneous Bilumen Gastrectomy Tube affords a simple method for simultaneous or independent jejunal feeding or drainage and gastric drainage. The tube is simple to insert or withdraw, since it is bucketless. It is introduced through the nose prior to the operation, and slipped into the jejunum after anastomosis.

The Einhorn Gastrectomy Tube is 48" long bisected by a center wall to give a double semicircular lumen. Each lumen can be used separately since they have separate openings at both ends. The shorter lumen opens into the stomach 14½" above the end of the tube. The tip of the tube is weighted for smooth and easy passage.

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- Adams Centrifuges
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- Surgical Rubber Goods
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- Gastro-Duodenal Tubes
- Polyethylene Tubing
- GOLD SEAL Syringes & Needles
- Adams Stethoscopes
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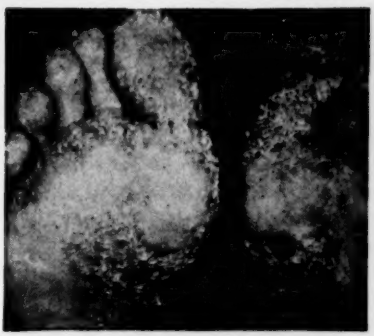
sion or court and know the comparative percentage values in such schedules if multiple disabilities of the body are involved. For example, disability to the fingers and arm should be combined in a percentage of the loss to the arm as a whole, and disability to the back, in addition to the leg and arm, must be quoted as percentage of loss to the entire body.

more effective against

tinea capitis

"More effective in ringworm of the scalp than any other topical agent."[1]



tinea pedis

In "athlete's foot" a combined cured and improved rate of 95% has been obtained.[1]

Also indicated in

tinea corporis
tinea cruris
tinea versicolor
tinea of the nails

"broad antifungal spectrum ...good cutaneous tolerance."[1]

New!

Asterol® *dihydrochloride*

5% tincture . . . ointment . . . powder . . .
sprayed, applied with cotton or dusted on

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1. Stritzler, C.; Fishman, I. M., and Laurens, S.: *Transactions New York Acad. Sc., 13*:31, Nov., 1950.

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Basic Science Briefs

Endocrinology

Effects on Adrenal of ACTH and Cortisone

Administration of ACTH produces the morphologic pattern of stress in the adrenal cortex. Loss of lipids, hypertrophy of the fascicular and reticular zones, and occasional cortical hyperplasia were noted by Dr. Ward M. O'Donnell and associates of the University of Michigan, Ann Arbor, when adrenals of 14 patients treated with hormones were examined post mortem. Changes induced by cortisone resembled the adrenal lesions observed after destruction of the pituitary gland. The fascicular and reticular layers became atrophic, the zona glomerulosa was broadened, and fat reduced. Atrophy probably resulted from suppression of pituitary adrenocorticotropic hormone.

Arch. Int. Med. 88:28-35, 1951.

"All right. Now let's exhale without the bubble gum!"

Arteriosclerosis

Endogenous Cholesterol

Arterial tissue is able to synthesize cholesterol. This extradietary source of cholesterol may be important in the pathogenesis of spontaneous arteriosclerosis in animals, believe Dr. M. D. Siperstein and associates of the University of California, Berkeley. Both rabbit and chicken aortas can convert C^{14}-labeled acetate into cholesterol.

Science 113:747-749, 1951.

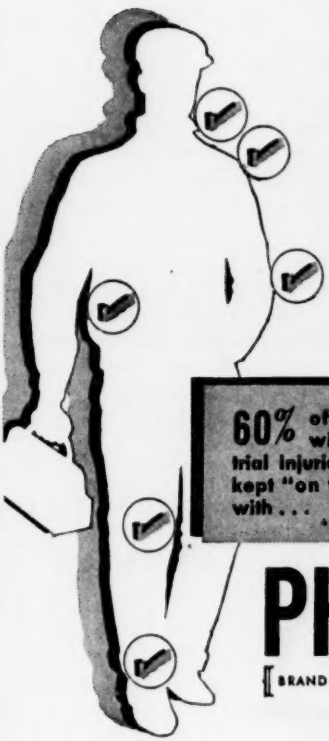
Nutrition

Biotin and Cholesterol Storage

Ability to esterify and store cholesterol apparently depends on availability of the B vitamin biotin. Dr. Ruth Okey and associates of the University of California, Berkeley, observed effects of biotin and its antagonist, avidin, on retention of food cholesterol in rats. When high-cholesterol diets were supplemented with biotin, hepatic fatty acid values were 1.5 to 3 times, and total cholesterol 6 to 8 times, as high as in rats given adequate cholesterol-free diets. Biotin-deficient rats given diets high in cholesterol stored no excess hepatic cholesterol ester and lost subcutaneous and visceral fat. An avidin-rich ration without cholesterol did not deplete liver fat, but the transfer to a high-avidin, high-cholesterol diet greatly decreased hepatic cholesterol ester.

J. Nutrition 44:83-99, 1951.

Dramatic RELIEF OF SKELETAL-MUSCLE SPASM BEFORE THE PATIENT LEAVES THE OFFICE...



60% of patients with industrial injuries can be kept "on the job"[3] with . . .

PHYATROMINE brings about gratifying improvement in conditions accompanied by muscle spasm—within 30 minutes of injection.[1,2] Spasm-locked muscles relax almost immediately, with resultant relief of pain and increase in joint mobility; relief lasts for three to five days (or longer after repeated injections).[1,2]

Conditions in which the accompanying spasm responds favorably to **PHYATROMINE** injections include: wrenched neck, back, or shoulder; pulled ligaments; lumbosacral and sacroiliac strains; myositis; bursitis; painful fixation of the knee joint; spasm due to shrapnel wounds; and certain cases of rheumatoid arthritis and osteoarthritis.[1,2,3,4]

PHYATROMINE®

[BRAND OF PHYSOSTIGMINE SALICYLATE AND ATROPINE SULFATE]

Kremers-Urban

FORMULA:
Each cc. contains:
Physostigmine Salicylate ..... 0.6 mg.
Atropine Sulfate ..... 0.6 mg.
In isotonic solution of sodium chloride.

SUPPLIED: List No. 1740: 1-cc. ampuls, boxes of 25; 30-cc. multiple-dose vials.

REFERENCES: 1. Marshall, W.: Journal-Lancet 70: 391 (Oct.) 1950. 2. Stahmer, A. H.: Wisconsin M. J. 49: 1020 (Nov.) 1950. 3. Stahmer, A. H.: To be published. 4. Goldman, J., and Cohen, A.: Journal-Lancet 66: 415 (Dec.) 1946.

Kremers-Urban Company
Pharmaceutical Chemists Since 1894
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Circulation

Measuring Cardiac Output

By use of the ear oximeter, cardiac output can be determined with the Fick principle without need of catheterizing the heart. The subject breathes a mixture of carbon dioxide and helium or nitrogen, then rebreathes into a closed system, so that mixed venous blood from the right heart passes unchanged through the lungs for examination in the ear. Dr. William Sleator, Jr., and associates of Washington University, St. Louis, measure the arterial–mixed venous oxygen difference by a modification of Wood's compressed ear, double recording technic. Errors due to light scattering and to variation in applying the earpiece are insignificant. A photocell highly sensitive to infrared light is chosen, and histamine is applied electrophoretically to achieve arterialization. Upon light exercise, with oxygen consumption 1.17 to 3.2 times the resting value, the percentage increase in cardiac output is much greater than that in arterial–mixed venous oxygen difference, as observed during heavy work.

J. Applied Physiol. 3:649-664, 1951.

Endocrinology

Adrenal Function in Extremis

Under fatal stress, the adrenals continue to function until the very moment of death. As an index of cortical function, serial eosinophil counts were made by Dr. Paul B. Jennings on 50 patients dying from various diseases at Atlantic City Hospital, N.J. In most cases the count fell to zero or slightly above and remained so to the end. Sudden demise apparently accounted for the few exceptions.

"Of course I didn't use wire sutures in your hemorrhoidectomy."

Life's Weary Moments

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The Sept. 15 winner is

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How happy mealtimes influence Nutrition

A BABY's assimilation of food is influenced by how much he *enjoys* his mealtimes.

When a worried mother asks you how to "make" her baby eat more, help her understand that one of the biggest things she can do for her baby is to avoid mealtime arguments.

Beech-Nut Foods in all their appealing variety are a great help in making mealtimes happy. Their finer flavor arouses *eager* appetite. Your young patient gets a good start nutritionally and emotionally!

A wide variety for you to recommend: Meat and Vegetable Soups, Vegetables, Fruits, Desserts —Cereal Food and *Strained* Oatmeal.

All Beech-Nut standards of production and advertising have been accepted by the Council on Foods and Nutrition of the American Medical Association.

Beech-Nut FOODS for BABIES

Babies love them...thrive on them!

Short Reports

Metabolism

Aortic Sclerosis

The concept is developing that arteriosclerosis is a definite metabolic disease and not a consequence of tissue aging. From this point of view, Dr. Gwendolyne Peck and associates at Louisiana State University and Charity Hospital, New Orleans, inspected the aortas in 300 consecutive autopsies. Crops of lesions were multiple in 152 cases, single or double in 112, and lacking in only 36. The age at earliest appearance was 1½ years, and everyone over 7 years old had at least one crop, although a woman of 78 had only one. Multiple outbreaks occurred most frequently between the ages of 45 and 55 years.

Federation Proc. 10:367-368, 1951.

Anesthesiology

Curare-like Drug

Flaxedil, a synthetic compound, paralyzes the muscles by disrupting transmission in the myoneural junction. Drs. Walter F. Riker and W. C. Wescoe of Cornell University, New York City, reverse the neuromuscular blockade by a typical anticurare bromide. Unlike d-tubocurarine, Flaxedil neither prevents ganglionic transmission nor releases histamine, but interrupts the cardiac vagus as atropine does. The 9-methyl analogue of Flaxedil is somewhat less curariform than Flaxedil, with a weak, transient vagolytic influence.

Cortisone

Allergic Rhinitis Therapy

Nasal spray with a 1:4 dilution of cortisone may temporarily reduce allergic sneezing, stuffiness, discharge, and polypoid growth, find Drs. J. Lewis Dill and Donald S. Bolstad of the Henry Ford Hospital, Detroit. Of 25 patients observed, 12 were greatly benefited, 6 somewhat improved, and the remainder not helped. The patients used the spray four times daily at home and had periodic office examinations.

Laryngoscope 61:415-422, 1951.

Gastroenterology

Improved Gastric Test

A histamine analogue, compound XXIV, seems better than the usual agents for routine tests of achlorhydria. Gastric secretion is induced but no flushing, headache, or other typical side effects, unless dosage is very high. Thus a stronger stimulus can be safely given and more definite results obtained in borderline cases. Drs. C. E. Rosiere and M. I. Grossman of the University of Illinois, Chicago, find that the same maximal secretory rates are produced with compound XXIV as with histamine, but relatively larger doses are used. From 10 to 50 mg. of the compound was given subcutaneously and intramuscularly to 20 persons without causing untoward reactions.

Science 113:651, 1951.

CHLORAL HYDRATE CAPSULES-FELLOWS

for the patient

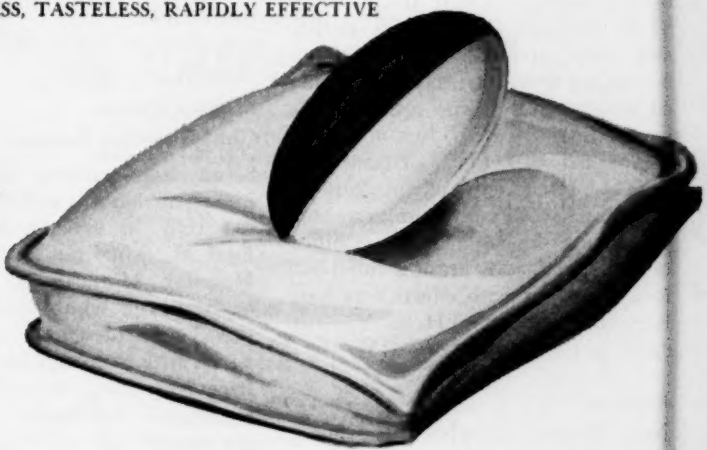
who needs daytime sedation and relaxation

Chloral Hydrate Capsules-Fellows (3¾ gr.) 0.25 Gm.

gives complete comfort without

physiological depression.

ODORLESS, TASTELESS, RAPIDLY EFFECTIVE



DOSAGE: Daytime Sedation: One (1) capsule three (3) times a day after meals.

Physiological Sleep is produced when two (2) to four (4) capsules are administered at bedtime.

"PHYSIOLOGICAL" SLEEP: Usually lasting from five to eight hours. Pulse and respiration are slowed in the same manner as in normal sleep. Reflexes are not abolished and the patient can be readily aroused.

EXCRETION: Rapid and complete therefore no depressant after-effects.

AVAILABLE: Prescription size bottles — 24's.

PROFESSIONAL SAMPLES AND LITERATURE ON REQUEST.

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Rehfuss, M.R. et al: A Course in Practical Therapeutics (1948)
Goodman, L. & Gilman, A.: The Pharmacological Basis of Therapeutics (1941)
Sollman, T.A.: A Manual of Pharmacology, 7th Ed. (1948) Useful Drugs, 14th Ed. (1947)

Endocrinology

Hormones and Infection

The power of ACTH and cortisone to incite fatal infection by otherwise harmless body flora is neutralized by STH, the somatotropic hormone. When very large doses of cortisone acetate were given to rats for twelve days, Dr. Hans Selye of the University of Montreal noted severe weight loss in all animals and multiple abscesses in 6 of 8, with death in 5. But the rats that also received STH remained in excellent health, and those treated with both hormones for seventeen days even gained weight. ACTH also produced abscesses if given alone but not if accompanied by STH. Cortisone and ACTH perhaps favored infection by lessening serologic immunity and preventing development of granulomatous barricades around microbial foci. Either or both effects may have been inhibited by STH.

Canad. M.A.J. 64:489-494, 1951.

Radiology

New Bronchographic Medium

Water-soluble contrast mixture of methylcellulose and diodrast is safer and more efficient for bronchography than the usual Lipiodol. The material combines with secretions to outline mucosa and partly filled bronchiectatic areas in fine detail and is rapidly absorbed and excreted. At the University of Colorado and Denver General Hospital, the agent is routinely employed by Dr. Mordant E. Peck and associates. To prepare the solution, 25 cc. of distilled water is heated to boiling, 1.23 gm. of methylcel, pharmaceutic grade 4,000 cps, is added, stirred, and allowed to stand half an hour. Then 50 cc. of 70% diodrast chilled to 5° C. is slowly added and refrigerated at 5 to 10° C. for two hours, stirred every half hour. The mixture is transferred to a 100-cc. vial or 2 of 50 cc. and sterilized in boiling water for an hour. After three hours of refrigeration with occasional shaking, the solution can be stored at room temperature. Films must be exposed within two or three minutes after instillation.

Surg., Gynec. & Obst. 92:685-692, 1951.

Collagen Diseases

Cold Test for Lupus

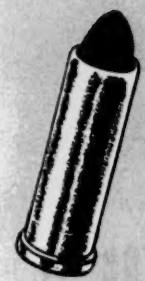
Serum from patients with acute lupus erythematosus will clump washed red cells in a cold medium. Dr. Emil M. Schleicher of St. Barnabas Hospital, Minneapolis, uses 10 cc. of fresh egg white filtered through two layers of gauze, diluted with 90 cc. of physiologic saline, and refrigerated for twenty-four hours. Group O Rh-positive erythrocytes are washed in saline solution, and a 10% suspension is chilled for a day. To 1 cc. of egg-white mixture placed in a Wassermann tube, 0.5 cc. of plasma or serum and 1 drop of cell suspension are added. The tube is placed in the refrigerator for half an hour, centrifuged at 2,000 rpm for one minute, then shaken until the red cell button is completely broken up. A control tube is shaken at the same time, and when cells are dispersed, the reading is started. A quantitative test is done with five tubes.

Science 113:558, 1951.

CHEILITIS is one of the most commonly seen dermatoses in clinical practice."

Arch. Derm. & Syph. 56:490, Oct. 1947.

For those who know they are allergic—
and for those who fear they may be
sensitive to ordinary cosmetics,
you may safely prescribe—



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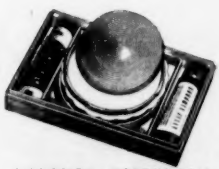

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Heart Disease

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Rapid action and freedom from toxicity are the special advantages of strophanthol, a drug prepared by catalytic hydrogenation of strophanthin. Minute, quickly soluble tablets containing 3 mg. each may be swallowed or dissolved sublingually. Drs. A. Ravina and H. Chimenes of Paris prescribe daily increasing amounts from 3 to 9 or 12 mg., then dosage is decreased to a maintenance level of about 3 to 6 mg. If edema is extreme, ouabain may also be given. Only 1 of 50 patients with cardiac insufficiency was not relieved by treatment, though another reacted unfavorably with restlessness, insomnia, and palpitation.

Presse méd. 59:682, 1951.

"This is my first real operation. It's going to be nice to work on something without a tail for a change."

Obstetrics

Cortisone and Pregnancy

Excessive doses of cortisone given to mice during gestation or the nursing period are dangerous to offspring, although ACTH seems harmless. Dr. Susi Glaubach and associates of Beth Israel Hospital and Columbia University, New York City, observed that when two or three injections of cortisone were given from seven or eight days before parturition to six days after, all mice were born dead or succumbed within a few days. The mothers' mammary glands grew almost entirely around the body and were greatly distended with milk. Administration of ACTH had no visible effect on litters or breast tissue, and nonpregnant mice receiving cortisone showed no mammary change.

Bull. New York Acad. Med. 27:398, 1951.

Toxicology

Antidote for Beryllium

Aurin tricarboxylic acid forms a stable, nontoxic compound with beryllium. Mice given lethal doses of the sulfate may be saved by ammonium salts of ATA injected intravenously, report Drs. Marcia R. White and associates of the Argonne National Laboratory, Chicago. The compound was effective when administered intravenously one hour before the toxic dose to at least eight hours after, and in amounts of 1 to 4 mg. per mouse. Repeated small doses begun an hour after beryllium injection and a 0.5% solution in drinking water were ineffective.

J. Pharmacol. & Exper. Therap. 102:88-93, 1951.

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EURAX® CREAM

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non-sensitizing – "We have used EURAX in approximately 400 cases. . . . There was only one instance of sensitization."

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cosmetically acceptable – "EURAX is odorless and non-staining . . . an elegant addition to our dermatologic therapy."

All quotations from paper presented before the 144th Annual Meeting of the Medical Society of the State of New York, New York City, Section on Dermatology and Syphilology, May 12, 1950. Peck, S. M. and Michelfelder, T. J. New York State J. Med. *50*:1934 (Aug. 15) 1950.

Reprints and samples gladly sent on request.

EURAX Cream (brand of Crotamiton) available in 10% concentration in a vanishing-cream base: tubes of 20 and 60 Gm. and 1 lb. jars.

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Diagnosis

Radioactive Tracer Diagnosis of Jaundice

A radioactive dye excreted mainly in bile clearly distinguishes obstructive jaundice from acute hepatic necrosis in dogs by characteristic levels in blood, urine, and feces. When tetradiodophenolphthalein is tagged with iodine and administered intravenously to dogs, Dr. Walter W. Carroll and associates of Northwestern University, Chicago, report that doses of 0.5 gm. containing about 20 microcuries per kilogram of body weight are satisfactory. In healthy animals, dye is removed rapidly from blood in the first six hours and more slowly thereafter. If the common duct is obstructed, the level changes very little in the first four hours except for a rise caused by regurgitation. Renal excretion of the dye is greatest in the second hour. With acute liver damage, the blood value is extremely high fifteen minutes after injection, and the urinary peak occurs in the third and fourth hours.

Quart. Bull., Northwestern Univ. M. School 25:13-18, 1951.

"Now what seems to be your problem?"

Radiology

Medium for Cholecystography

Monophen, an opaque medium for gallbladder radiography, produces fewer side reactions than Priodax. Intense diarrhea occurs in only 1% of cases, pain and nausea are quite tolerable, vomiting is rare, and 66% of patients remain symptom free. At the Jewish Hospital of Brooklyn, N.Y., the new agent has been employed for three years in more than 2,500 cases. The formula for Monophen is 2-(4-hydroxy-3,5-di-iodobenzyl)-cyclohexane carboxylic acid. Drs. Milton G. Wasch and Bernard S. Epstein use a suspension given in 6 or 8 capsules the night before examination. If body weight is less than 150 lb., 3 gm. is adequate, and for heavier subjects, 4 gm. Double doses are unnecessary.

Am. J. Roentgenol. 66:98-102, 1951.

Research

Allergy Fellowships

Pediatricians interested in allergy research may apply to Dr. Bret Ratner for fellowships at New York Medical College, 106th St. and Fifth Ave., New York City 29. Work starts in January and continues for one or two years.

GELATINE
in the Geriatric Diet

FOR the geriatric patient requiring appetizing dishes at once easy on the dentures and digestion, Knox Unflavored Gelatine is an important part of the regimen because of the variety of ways it may be served.

A protein-sparer, which is itself all protein and sugar-free, it may be used as a vehicle for soups, protein-drinks, salads or as a "meat stretcher." It satisfies the stomach and does not leave the patient distressed by "over-fullness" so characteristic of the tired digestive system.

FREE You are invited to send for dietary guide and recipe books suitable to geriatric nutrition and associated conditions such as LOW SALT DIET, DIABETIC DIET, REDUCING DIET, ETC. Write Knox Gelatine, Johnstown, N.Y. Dept. X.

Available at grocery stores in family size 4-envelope and 32-envelope economy size packages

KNOX GELATINE U.S.P.

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Urology

Congenital Dilatation of Renal Tubules

Uric acid crystals and, occasionally, massive uric acid infarcts may be found in renal pelves of the fetus near or at term. Deposition in the collecting tubules may cause permanent dilatation and, in some cases, development of cysts. Dr. Vincent Vermooten of the University of Texas, Dallas, after studying 2,000 autopsy specimens, concludes that so-called calyceal diverticula are the localized lesions. The nephrocalcinosis probably consists of multiple calculi that eventually form in the dilated tubules. The slightest visible radiographic lesion is a faint fanlike area of density, and the most extreme cystic change compatible with life resembles a bunch of grapes attached to each minor calyx. Characteristic dilatation of the renal tubules was seen in minimal to obvious stages in 35 to 648 complete urographic studies reviewed, or about 5%.

Yale J. Biol. & Med. 23:450-453, 1951.

Biochemistry

Artificial Cholesterol

Total synthesis of cholesterol has been announced by Dr. R. B. Woodward and associates of Harvard University, Boston. Starting with a relatively simple component of coal tar, other chemicals were added until the complex natural substance was duplicated. As part of the same project, steroids such as desoxycorticosterone, progesterone, and testosterone have been produced by similar methods.

Antibiotics

Radiation Syndrome

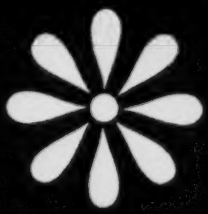
Terramycin behaves like aureomycin in moderating the effects of acute radiation. Immediately after exposure to single doses of 450 r, 14 dogs were given 100 mg. of terramycin per kilogram daily for twenty-eight days. By the sixtieth day after irradiation, 7 of the 14 dogs had died, and 12 of 13 not given the antibiotic. Dr. J. W. Howland and associates of the University of Rochester, N.Y., also noted that after antibiotic therapy, illness was less severe and death was delayed four or five days.

Federation Proc. 10:67, 1951.

Pediatrics

Training in Child Allergy

New York Medical College is offering a postgraduate course in allergy and immunology to pediatricians, Nov. 7, 1951 to May 28, 1952, under the direction of Dr. Bret Ratner. Applications may be sent to the Dean, 106th St. and Fifth Ave., New York City 29.



for the pain that *wasn't* there following Pabalate therapy in arthritis.

Para-aminobenzoic acid 0.3 Gm. (5 gr.), plus sodium salicylate 0.3 Gm. (5 gr.) provide *higher* salicylate blood levels on *lower* salicylate dosage — with *more prolonged* clinical relief, and *reduced* side-effects.

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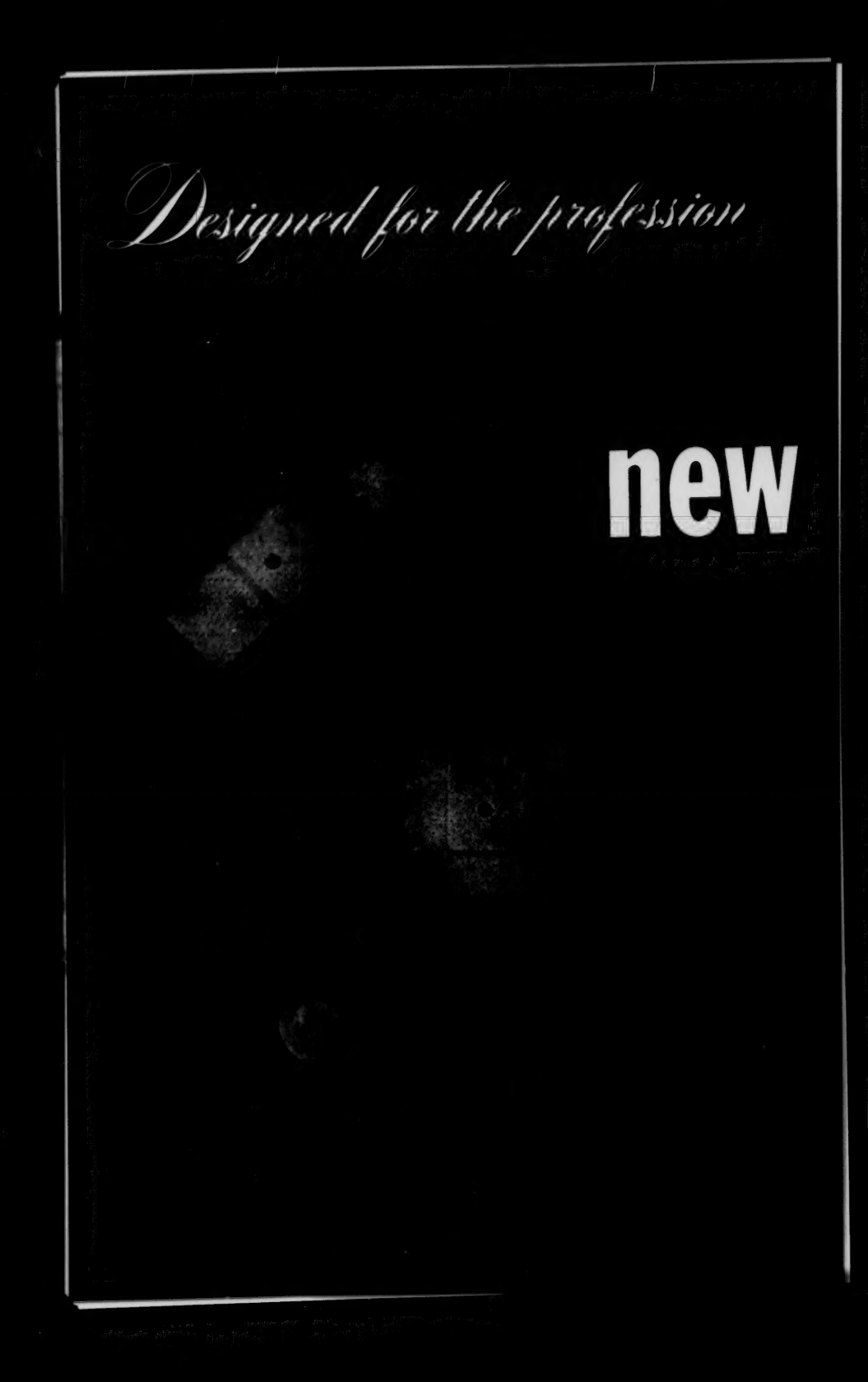

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fit better

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a size and shape for every need • designed and packaged for professional use

— individually wrapped

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MEANS — MADE BY

Surgery

Hemostasis and Anticoagulants

When surgery is done during anticoagulant therapy, bleeding from oozing surfaces can be effectively controlled by gelatin sponge, provided therapeutic levels of anticoagulants are not exceeded. The method is especially valuable in some types of vascular surgery in which the influence of anticoagulants is desirable, as in operations for arterial embolism. Dr. Harold Laufman and associates of Northwestern University, Chicago, report successful use of gelatin sponge in 4 embolectomies after heparin had been used. Hemostatic ability of the agent was also proved in splenic wounds of dogs receiving dicumarol or heparin. When safe therapeutic levels of the drugs are exceeded, the sponge is no longer able to control bleeding.

Arch. Surg. 63:60-69, 1951.

Military Medicine

Rescue after Atomic Explosion

Removal of the injured, fire fighting, and repairs can begin at once in any area where life remains after air burst of an atomic weapon. The radiation hazard from a high explosion disappears in two minutes, and residual effects from a detonation just above the ground are confined to a devastated region 300 to 400 yd. in radius, reports Brig. Gen. James Cooney of the U.S. Atomic Energy Commission. Food and drinking water outside the zone of total destruction remain fit for consumption.

Cardiology

Procaine Amide for Arrhythmia

When an idiosyncrasy to quinidine exists, auricular or ventricular arrhythmias may be corrected by procaine amide hydrochloride, which has more lasting influence than procaine. In treatment of 14 patients, Dr. Abraham I. Schaffer and associates of the New York Medical College, New York City, found that auricular extrasystoles, tachycardia, flutter, and fibrillation were frequently abolished. The hydrochloride was administered orally or intravenously in amounts 4 times those used with quinidine sulfate. The maximum tolerated single dose was 1.25 gm. four times a day orally. Therapy was discontinued in 2 cases because of reactions such as nausea and vomiting. Procaine amide also tends to induce ventricular extrasystoles, an atropine-like action, and depression of normal conduction.

Am. Heart J. 42:115-123, 1951.

Nutrition

Choline and Fatty Liver

Addition of choline to a basal diet does not decrease fatty infiltration of the liver appreciably more than the diet alone. A daily ration containing 250 gm. of carbohydrate, 75 gm. of protein, and 75 gm. of fat was given for about four weeks to 13 alcoholic patients, 2 of whom kept on drinking alcohol. Besides the diet, from 4 to 17 gm. of choline bicarbonate per day was also taken by 4 others. Serial liver function tests and needle biopsies revealed similar improvement and clearing of fat in all but the 2 who continued drinking. Dr. Joseph Post of New York University, New York City, and associates found no differences in lipotropic response between simple fatty liver and cirrhotic fatty infiltration. Disappearance of fat was associated with no special change in periportal cellular infiltration or fibrosis.

Doctor . . .

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The simplest, fastest urine sugar test known.

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For the rapid detection of Acetone in urine or in blood plasma.

A LITTLE POWDER
A LITTLE URINE **COLOR REACTION IMMEDIATELY**

Combination Kit: Contains both tests, a dropper and color chart. Available at all drugstores and surgical supply houses.

BIBLIOGRAPHY

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Bacon, Melvin: The Journal of The Maine Medical Assn. — Vol. 38, July, 1947, No. 7—P. 167.

Stanley, Phyllis: The American Journal of Medical Technology—Vol. 6, No. 6, Nov., 1940 and Vol. 9, No. 1, Jan., 1943.

GALATEST and ACETONE TEST (Denco)

. . . Spot Tests that require no special laboratory equipment, liquid reagents, or external sources of heat. One or two drops of the specimen to be tested are dropped upon a little of the powder and a color reaction occurs immediately if acetone or reducing sugar is present. False positive reactions do not occur. Because of the simple technique required, error resulting from faulty procedure is eliminated. Both tests are ideally suited for office use, laboratory, bedside, and "mass-testing." Millions of individual tests for urine sugar were carried out in the Armed Forces induction and separation centers, and in Diabetes Detection Drives.

The speed, accuracy and economy of Galatest and Acetone Test (Denco) have been well established. Diabetics are easily taught the simple technique. Acetone Test (Denco) may also be used for the detection of blood plasma acetone.

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STOLIC® and STOLIC® FORTE Tablets bring about a decrease in systolic pressure of approximately 35 mm. of mercury. Pressure begins to fall 15 to 30 minutes after administration; maximum reduction in pressure is produced in about 2½ to 3 hours. The effect of a dose lasts 4 to 6 hours.

Because of their prolonged action, STOLIC Tablets make it possible to maintain steady effects without the need for frequently repeated doses. This is an important advantage in the management of patients with essential hypertension and other circulatory disturbances in which it is desirable to lower the general blood pressure over an extended period of time.

STOLIC Tablets benefit hypertensive patients in 3 ways:

1) by direct action on the vasomotor system as provided by

MANNITOL HEXANITRATE

Mannitol hexanitrate has a prolonged vasodilating action by virtue of its relaxing effect on the smooth muscle of the arteries. This action results in a gradual decrease in arterial pressure; diminished pressure is seen for 4 to 6 hours after administration.

2) by general sedative and calmative effects as provided by

DELVINAL® VINBARBITAL

Delvinal alleviates anxiety and tension, makes patients less apprehensive and less irritable. This tends to prevent fluctuations in blood pressure of emotional origin. Delvinal also contributes to the control of vasomotor function by subduing nerve-reflex excitability.

3) by a beneficial effect on abnormal capillary fragility as provided by

RUTIN

Rutin has been found useful in the treatment of increased capillary fragility associated with hypertension. Since cerebral

Fall in blood pressure begins 15 to 30 minutes after administration of Stolic. Effect of dose lasts 4 to 6 hours.

and retinal hemorrhages occur more frequently when hypertension is accompanied by increased capillary fragility, the administration of rutin is a logical procedure for guarding against such vascular accidents.

COMPOSITION

STOLIC® TABLETS	*Each* STOLIC *Tablet contains:*
	Mannitol hexanitrate 15 mg. (¼ grain) Rutin 20 mg. (⅓ grain) Delvinal vinbarbital 30 mg. (½ grain)
STOLIC® Forte TABLETS	*Each* STOLIC FORTE *Tablet contains:*
	Mannitol hexanitrate 30 mg. (½ grain) Rutin 20 mg. (⅓ grain) Delvinal vinbarbital 30 mg. (½ grain)

Dosage The recommended dose for adults is 1 to 2 tablets at intervals of four to six hours. If the systolic pressure is excessively elevated, the dose may be increased in accordance with clinical judgment.

Packaging STOLIC and STOLIC FORTE Tablets are supplied in bottles of 100 and 1,000.

SHARP & DOHME • Philadelphia 1, Pa.

Oncology

Color Test for Malignancy

An essential trait of malignant tumor is ability to change or remove color from some dyes. For diagnosis, 0.25 to 0.5 cc. of tissue is employed by Dr. Emil Weiss of Peoples Hospital, Chicago. The sample is cut into small particles, placed in tubes, and covered with 5 cc. of dye. Except litmus, dyes are diluted 1:10,000, dissolved in 35% isopropyl alcohol. The tube is corked and shaken vigorously for a minute or two, and color changes are noted. Supernatant fluid is turbid with any type of malignant growth and clear with benign tumor or normal tissue. Malignant tissue will completely decolorize benzo blue, chlorazol black E, naphthogene blue 2B, and other types. Cotton blue, litmus, and Poirrier's blue are changed to light rose, and trypan blue from violet to pale blue.

Cancer Research 11:288-289, 1951.

Atherosclerosis

Giant Molecules and Cholesterol

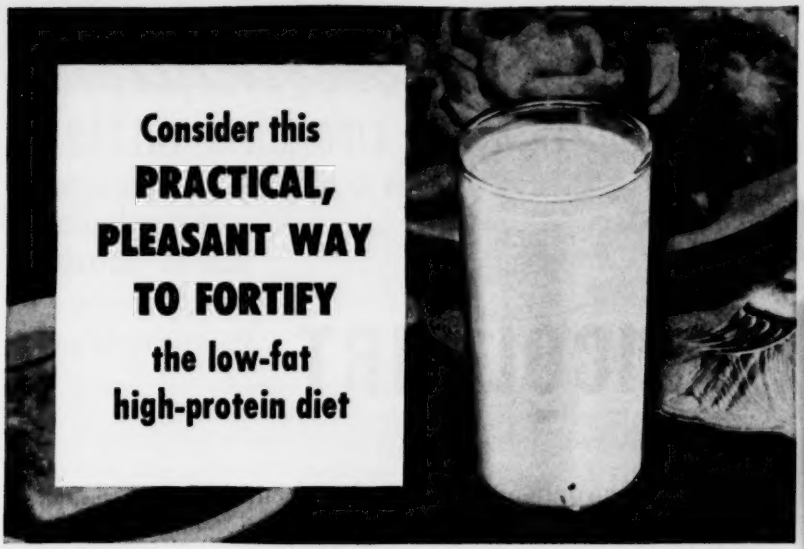
Large serum particles separated by flotation in the ultracentrifuge are more numerous in patients with atherosclerotic conditions than in healthy persons. As a criterion of myocardial infarction, however, total cholesterol in serum is equally reliable and probably better. Published data on the subject were analyzed statistically by Dr. Ancel Keys of the University of Minnesota, Minneapolis. Concentrations of total cholesterol and of the giant molecules, G, were closely correlated in both healthy and cardiac subjects. But very high cholesterol values were more often related to atherosclerosis than were high values of G. Alone or with cholesterol figures, G does not predict atherosclerotic disease or show activity of the process more accurately than simple cholesterol tests.

Bull. Johns Hopkins Hosp. 88:473-483, 1951.

Gastroenterology

Motility of Distal Colon in Colitis

Structural changes in the bowel with nonspecific ulcerative colitis may be caused by sustained contraction due to continuously overactive autonomic stimulation. This presumption is upheld by balloon kymography of the descending and sigmoid colon. Records of the normal rectosigmoid made by Dr. C. F. Code and associates of the Mayo Clinic, Rochester, Minn., show bursts of activity persisting a few minutes, with a spiky deflection lasting twenty-four seconds and occurring twice a minute. With colitis, the waves are less common or absent, being replaced by a type that lasts more than a minute and occurs about every three minutes. Each wave is accompanied by increased pressure in the rectum. Dr. Thomas P. Almy and associates of New York City obtained a tracing of the descending and sigmoid colon that was practically a straight line. The abnormality sometimes disappeared during remission, reappeared promptly with relapse, and was closely correlated with diarrhea. Sustained tension was unrelated to degree of bowel injury and could be interrupted by drugs.



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- **"MULTI-MIX"***—new multiple vitamin-mineral concentrate.

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Gastroenterology

Bowel Motility Increased by Potassium Injections

Paralytic ileus from obstruction or after operation may be caused by potassium deficiency brought on by vomiting, diarrhea, or flooding with saline and glucose solutions. If serum levels are low or the electrocardiogram suggests potassium depletion, bowel function may be restored by 300 cc. of isotonic potassium chloride injected intravenously, suggest Dr. P. C. Gazes and associates of the Medical College of South Carolina, Charleston. The method successfully restored peristalsis for 10 patients. Potassium might be useful for ileus with inflammation of the gallbladder or kidneys and other nongastrointestinal conditions. Intestinal motility of healthy dogs was not altered by the infusion.

J. Lab. & Clin. Med. 37:902-908, 1951.

Endocrinology

Diabetes and DCA

If a person with diabetes mellitus is insensitive to insulin, desoxycorticosterone acetate may cause a temporary response to the hormone. But in diabetic subjects initially sensitive to insulin, DCA may either reduce or fail to change sensitivity. Two conclusions are drawn by Dr. Hyman J. Zimmerman and associates from a study by Himsworth's technic of 15 patients at the Veterans Administration Hospital and the George Washington University, Washington, D.C: [1] Diabetes with insulin insensitivity may result from excess of insulin antagonists supplied by pituitary or adrenal glands, and disease with power to react may result principally from lack of natural secretion. [2] Insulin antagonists are inhibited by DCA.

J. Clin. Endocrinol. 11:728-736, 1951.

Doctor to Doctor

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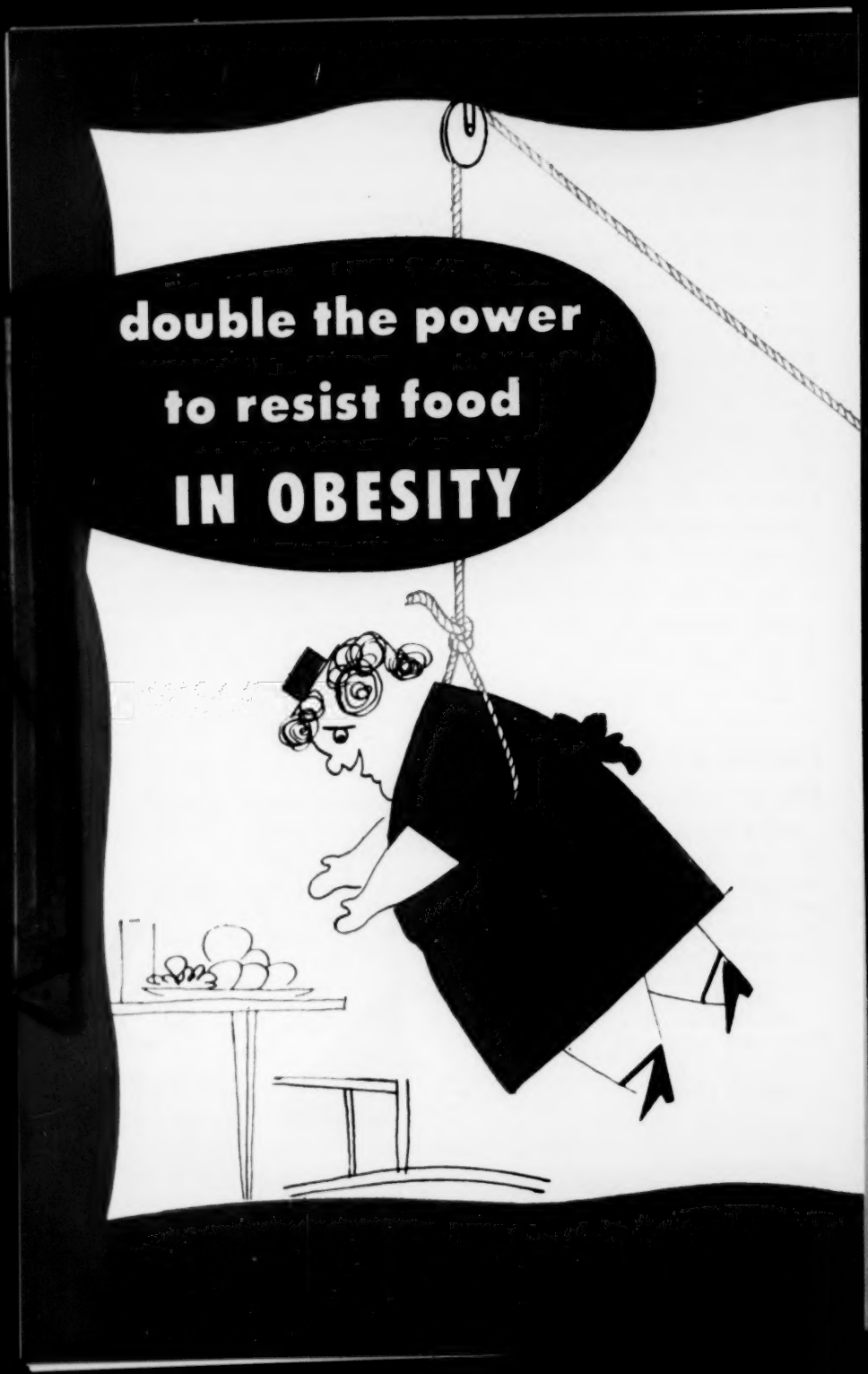
Mail your caption to The Cartoon Editor Caption Contest No. 2 MODERN MEDICINE 84 South 10th St. Minneapolis 3, Minn.

"Mrs. Thomas wants to know if taking too much radioactive phosphorus will give her atomic piles!"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to resist food
IN OBESITY

"For every person who worries himself thin there are ***three*** who eat their way to obesity."[1] These individuals present a problem to the physician since their chief pleasure is food.

OBOCELL exerts a double action in keeping the obese patient on a diet l-o-n-g-e-r. Obocell (1) suppresses bulk hunger; (2) curbs the appetite. Furthermore, Obocell elevates the mood and supplies non-nutritive bulk residue lacking in obesity diets. Thus, patients on Obocell therapy naturally eat less, do not violate their diet, lose weight and are satisfied and happy.

Each Obocell tablet contains Dextro-Amphetamine Phosphate, 5 mg.; Methylcellulose, 150 mg. *Dose:* Three to six tablets daily, usually given 30 minutes before meals. ***Supplied:*** In bottles of 100, 500, 1000.

1. Bram, I.: Arch. Ped. 67: 543-552, 1950.

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Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: The federal Tort Claims Act makes the government liable, as a private party is, for injuries carelessly caused by employees, except—among other exceptions—when the negligent employee is exercising a discretionary function. Under Army regulations, a sergeant's wife was admitted to the maternity section of an Army hospital for delivery of her child. Through carelessness of hospital employees a dangerous drug was injected instead of spinal anesthetic. The patient suffered serious and permanent injuries, and the child was also injured. Was the government liable?

COURT'S ANSWER: Yes.

The U.S. District Court, Western District of Texas, dismissed a suit brought by the sergeant and his wife. But the U.S. Court of Appeals, Fifth Circuit, reversed the decision, deciding that medical care afforded dependents of Army personnel has long been recognized as a "valuable prerogative incident to their service," which is an inducement to adopt an Army career. The president or secretary of war may provide such medical care "as an economic expedient or as a part of the pay of the members of such armed forces, provided Congress makes available the necessary funds." The patient was entitled to reasonable care and skill. For failure to provide it the government was just as liable as a private person or corporation (181 Fed. 2d 723).

PROBLEM: At a personal injury suit trial was it highly reprehensible for plaintiff's attorney, in cross-examining a medical expert for defendant, to ask, "Isn't that one of the main reasons why all these corporations want you to testify for them because you not only act as their physician, but as their detective?"

COURT'S ANSWER: Yes.

But the Indiana Appellate Court decided that the misconduct was not serious enough to require the trial judge to declare a mistrial; he having rebuked the attorney.

The court also observed that "the permissible latitude of questioning of an expert witness is much wider than it is where the witness is non-expert" (99 N.E. 2d 435).

PROBLEM: An unlicensed person maintained an office and advertised himself as a practitioner. Was his conviction of practicing without a license invalid if based upon testimony of a state board investigator who posed as a patient and was treated by accused?

COURT'S ANSWER: No.

The Illinois Appellate Court pointed out that the investigator did not lure the accused into the commission of an offense, but merely used a legitimate artifice and stratagem to catch him in a criminal enterprise (99 N.E. 2d 367).

VASCUTUM

for the life that begins at forty

VASCUTUM* makes possible a dual attack—both prophylactic *and* therapeutic—in the two-front battle against hypercholesterolemia and capillary fragility. VASCUTUM combines in one medication:

1. Potent amounts of lipotropic agents, to promote decholesterolization in atherosclerosis, cirrhosis and diabetes mellitus.

2. Therapeutic amounts of rutin and ascorbic acid, to combat related capillary weakness effectively. Damaging retinal hemorrhage often results from excessive capillary fragility and associated abnormal cholesterol deposits.

A daily dose of 6 tablets provides:			
Choline	1 Gm.	Pyridoxine HCl	4 mg.
Inositol	1 Gm.	Rutin	150 mg.
dl-Methionine	500 mg.	Ascorbic Acid	75 mg.

VASCUTUM is another Schenley Laboratories contribution marking a distinct advance in the management of interrelated degenerative diseases clinically prominent in the middle-aged and elderly.

SUPPLIED in bottles containing 100 tablets.

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*The word VASCUTUM is a trademark of Schenley Laboratories, Inc.

PROBLEM: A robust laborer, 43 years old, who previously had received no medical attention, was injured when a twig penetrated his ear while at work, causing pain and bleeding. His physical condition deteriorated steadily, though he was treated by physicians. In a workman's compensation proceeding, were the Louisiana courts warranted in finding that the twig injury aggravated multiple sclerosis, dormant at the time of the accident, if medical opinions that there was no such aggravation were "vague, indefinite, confusing or contradictory"?

COURT'S ANSWER: Yes.

One of the medical witnesses said that only an autopsy could determine whether the injury aggravated the disease. Another doctor, who wrote a 3½-page report based on a ten-minute examination, reported that the workman had a "central nervous system disease . . . characterized by a chronic and progressive course with numerous remissions and exacerbations," unrelated to trauma and which "occurs spontaneously with reference to trauma." One doctor reported normal vision. The workman appeared at the original hearing of his compensation claim wearing very thick glasses. The same doctor said that it was unlikely that the man would die "in the near future." Nine months later the patient was dead.

The Louisiana Court of Appeals, First Circuit, cited an earlier decision that when medical testimony is in "deplorable and irreconcilable conflict . . . the court must look

THESODATE

THE ORIGINAL — ENTERIC COATED TABLET of THEOBROMINE SODIUM ACETATE

Proven Effective
IN ANGINA PECTORIS AND CORONARY ARTERY DISEASE

CLINICALLY PROVEN Carefully controlled objective studies in humans and very extensive clinical experience have definitely proven the value of Theobromine Sodium Acetate in treating Angina Pectoris and Coronary Artery Disease.

RECOMMENDED DOSAGE 7½ grains q.i.d. before meals and before retiring. A capsule upon arising if necessary.

SUPPLIED In bottles of — 100 — 500 — 1000

TABLETS THESODATE

*(7½ gr.) 0.5 Gm. . . . . *(3¾ gr.) 0.25 Gm.

THESODATE WITH PHENOBARBITAL

*(7½ gr.)	0.5 Gm.	with	(½ gr.)	30 mg.
(7½ gr.)	0.5 Gm.	with	(¼ gr.)	15 mg.
*(3¾ gr.)	0.25 Gm.	with	(¼ gr.)	15 mg.

THESODATE, POTASSIUM IODIDE AND PHENOBARBITAL

Theobromine Sodium Acetate	(5 gr.)	0.3 Gm.
Potassium Iodide	(2 gr.)	0.12 Gm.
Phenobarbital	(¼ gr.)	15 mg.

Capsules also available in forms marked with asterisk (*) above in bottles of 25 — 100.

For sample — just send your Rx blank marked MM-9.

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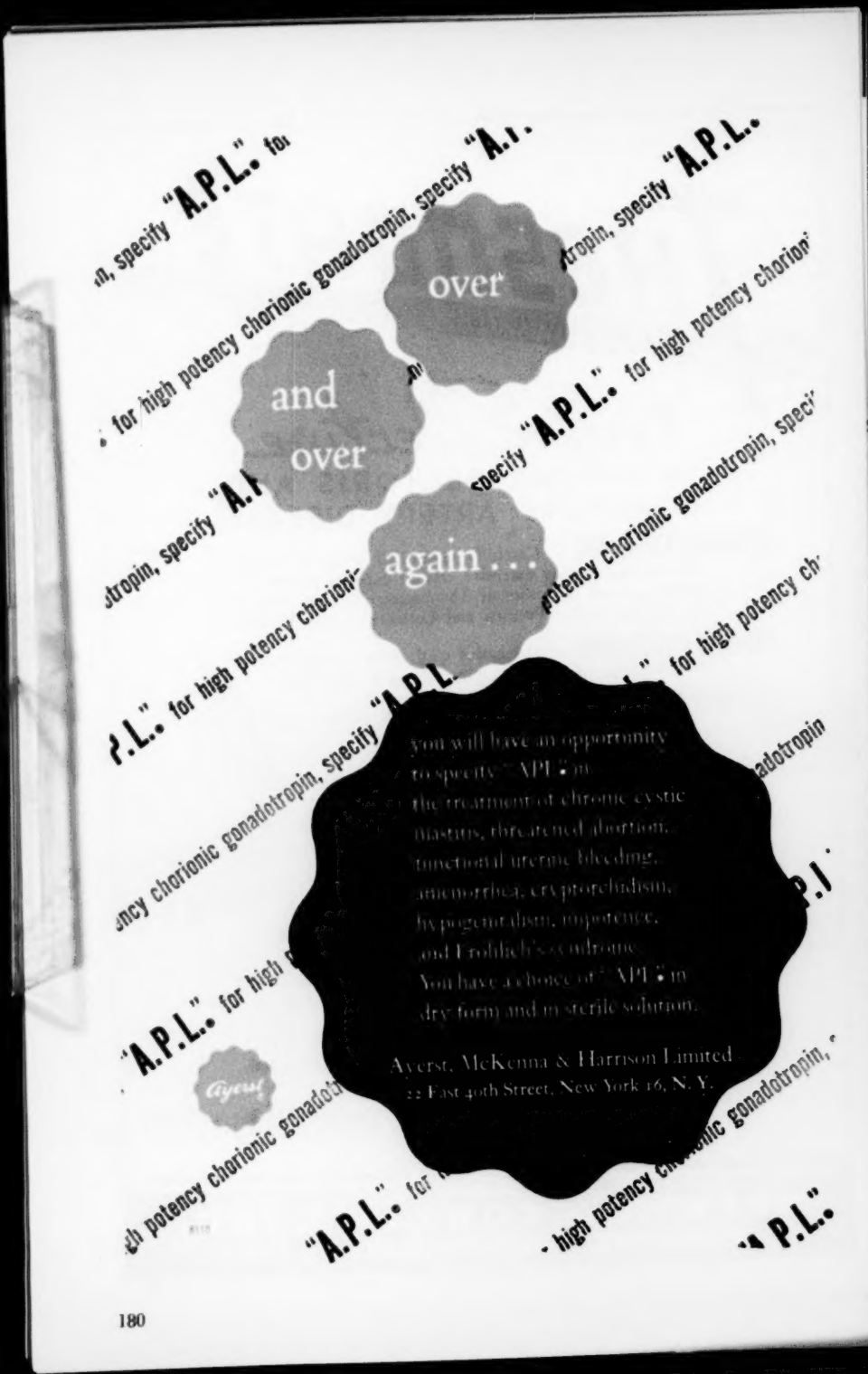
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to the lay testimony and . . . other evidence for assistance in its endeavor to do justice." A case was cited in which medical testimony that a workman's bones were not injured when a reel of paper fell upon him was disregarded and a finding to the contrary was made on the basis of lay testimony (46 So. 2d 332).

¶The Court of Appeals makes this amazing pronouncement: "The court, in going beyond the medical evidence in reaching an equitable decision, is not" to be regarded as indicating judicial disposition to supplant the opinions of medical specialists, "but it must do so when the evidence is confusing and lacking." That statement seems to flatly contradict the court's own recognition earlier in the opinion, that the claimant in any civil case or proceeding "must prove his case by a preponderance of the evidence." Yet, in the next breath, the court says, in effect, that when the claimant fails to produce medical testimony to show that accidental injury aggravated a disease, the court can so find because medical testimony tending to show the contrary is unsatisfactory.—A.L.H.S.

PROBLEM: Is an insurance company liable for services of a physician to a hospital insurance policyholder rendered at the instance of an agent of the company who was authorized only to solicit insurance, the company having no knowledge of the employment until a bill for the services was received?

COURT'S ANSWER: No.

The Texas Court of Civil Appeals, Amarillo, decided that, under the circumstances, the fact that the services rendered may have avoided hospital expense for which the insurance company would have been liable did not alter the case (237 S.W. 2d 694).

PROBLEM: An industrial worker died under circumstances raising doubt as to whether death resulted from an industrial accident or heart disease. Dr. G, family physician, erroneously but in good faith told the widow that an autopsy was legally necessary. She later consented to one, apparently with hope that an accident would be disclosed entitling her to a workmen's compensation award. Dr. G claimed that he admitted to her his mistake on discovering it. He arranged with Dr. K, the employer's physician, to perform the autopsy, at the employer's expense. Were the doctors and employers liable on the ground of unauthorized autopsy?

COURT'S ANSWER: No.

The Kentucky Court of Appeals exonerated Dr. G on the ground that a layman's innocent opinion as to what is law is not an actionable fraudulent representation. Furthermore, the court said, the worker's widow had waived ground for objection by signing a written consent to a limited autopsy that was of prospective advantage to her (239 S.W. 2d 97).

¶Obviously, Dr. G's experience will discourage many doctors from giving curbstone opinions to patients on questions of mortuary law—A.L.H.S.

PROBLEM: A patient was taken to an illegal practitioner of medicine for diagnosis and treatment on the advice of an osteopath. Did proof of this fact justify suspension of the osteopath's license to practice on a statutory ground of having "professional connection" with an illegal practitioner of medicine?

COURT'S ANSWER: Yes.

So decided the Ohio Court of Appeals, Franklin County (97 N.E. 2d 688).


Schering ANNOUNCES

NEW

DORMISON*

new, non-barbiturate hypnotic

for safe, sound sleep without drug hangover free from habit-forming properties of the barbiturates

safe

free from habit-forming or addiction properties of barbiturates; rapidly metabolized; no cumulative action; no toxic effects on prolonged use

acts gently and quickly in insomnia

mild hypnotic action quickly induces restful sleep

no prolonged suppressive effect

action subsides after a few hours; patient continues to sleep naturally

no drug hangover

patient awakens refreshed with no "drugged" feeling

DORMISON is a substance new to pharmacology, completely different from barbiturates and other hypnotics. It contains only carbon, hydrogen and oxygen. It has no nitrogen, bromine, urea residues, sulfone groups or chemical configurations present in depressant drugs now in use.

The usual dose of DORMISON (methylparafynol†) is one or two capsules, taken just before the patient is ready for sleep. DORMISON's wide margin of safety allows liberal adjustment of dosage until the desired effect is obtained. DORMISON is supplied as 250 mg. soft gelatin capsules in bottles of 100.

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*T.M. †U.S. Pat. Pending

DORMISON

Washington Letter

Facts and Figures Now Available for Health Plan Debates

When Congress next takes time out for a full-scale debate on any of the nation's medical problems it will have one more set of facts to work with—the Commerce Department's survey of physicians' incomes for 1949. For those who enjoy their arguments seasoned with facts, it can be noted that the Commerce Department report will supply both sides with ammunition for debate.

This report, incidentally, was released only a few weeks after publication of another document which also should contribute factual information in an area where emotion and loud voices have dominated many recent arguments. The earlier one was the Senate Health Subcommittee's Report on Voluntary Health Plans, recently summarized in *Modern Medicine* (July 15, p. 55). The report is available without cost from the Senate Labor and Welfare Committee; reprints of the Commerce study of incomes are available at Government Printing Office, Washington, D.C., for 15¢ each.

Basically, the Commerce Department study has no startling information; it confirms what many observers expected, that physicians' incomes have increased gradually over the last twenty years and have about kept pace with the deflation of the dollar.

The American Medical Association, which cooperated with the Commerce Department in preparation of the report, was quick to point this out. It said, "perhaps the most significant general conclusion" to be found in the report is the following: "In the 20-year period since 1929, the average net income of all civilian physicians more than doubled, but this relative increase was practically identical with that for all earners in the general population over the same period."

"No, I don't want to see him. Tell him I have a headache or something."

The association's analysis, that appeared in the AMA *Journal*, stated that two other factors prob-

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It isn't always easy for patients to follow your orders—when you advise giving up coffee. But, as you know from experience, you'll get more cooperation from your patients if you suggest *caffein-free* Postum instead. They'll like its hearty flavor—find it easier to *stay off* coffee! So, to help *you* help your patients, we'll be happy to send you, without charge or obligation, our Professional Pack of 12 trial-size packages of Instant Postum. Use the handy order blank below.

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While many people can drink coffee or tea without ill effect—for others, even one to two cups may result in indigestion, hypertension and sleepless nights. *See "Caffein and Peptic Ulcer" by Drs. J. A. Roth, A. C. Ivy, and A. J. Atkinson —A. M. A. Journal, Nov. 25, 1944.*

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ably were more important than fee increases in explaining the higher individual incomes. These factors are:

1] Improved collections—a decrease in the percentage of uncollected bills for medical services rendered and, perhaps, a smaller percentage of charity patients to whom services were given free or at reduced fees

2] Greater "output per physician." These data on the incomes of physicians clearly indicate that 1,000 physicians were doing considerably more medical work in 1949 than 1,000 physicians did a dozen years ago.

The increase in output per physician is attributed to, among other things, changes in therapy and diagnosis, increased use of technical assistants, a higher proportion of patients seen in the office and hospital, and improved transportation.

The AMA *Journal*, in commenting on the report, saw in it the possibility for solving one of the big problems now facing the profession, the maldistribution of physicians. "The study is replete with evidence that the highest average incomes are not being earned by physicians in the large metropolitan cities. This information should buttress the arguments of the many physicians and lay leaders interested in improving medical care in the smaller cities and towns of the rural parts of the country."

Then, in an effort to force a solution, the *Journal* urges, "although many factors are involved in the choice of location, this study is commended to all interns and residents who are faced with the problem of choosing a location."

Another conclusion of the AMA is that there was no nation-wide shortage of physicians in 1949, because, for the preceding twenty years, physicians' incomes had risen no faster than the average income of the American people.

However, the AMA does not make all the conclusions to be drawn from the report. Government and college officials who currently are pressuring Congress to subsidize medical education note that the proportion of full specialists has increased from 26% in 1929 to 46% in 1949—meaning fewer general practitioners to care for the public. Other interested observers stress that the mean net income of physicians was usually found to be lowest in the sparsely settled, relatively poor states. For example, for Mississippi it was $9,595, Arkansas $8,631, and Vermont $7,527. But for Texas, Minnesota, California, Oregon, and Washington it was in excess of $12,000. Their conclusion is that residents of these low-income states will continue to receive less than adequate medical service under the system of private practice of medicine.

In the same connection, physicians practicing in towns of less than 1,000 population had the lowest net incomes, both as general practitioners and as full-time specialists. However, the report actually makes no attempt to decide whether distribution is adequate or inadequate.

A few more miscellaneous findings of the report:

- Out of every 100 physicians, 1 had a net income loss in 1949.
- Of every 14, 1 made less than

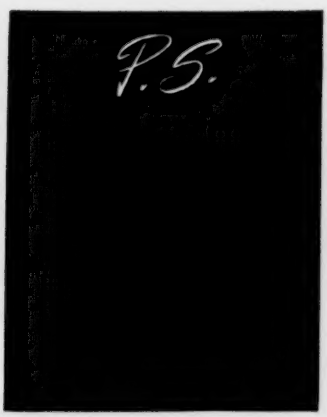
(Continued on page 190)

The Postural Reflexes Remain Intact

VERILOID*

In Hypertension

A highly valuable feature of the hypotensive action of Veriloid is the maintained functioning of the postural reflexes so important to normal living. Even when the blood pressure is lowered to normal or near-normal limits, exertion and sudden changes in posture lead to the physiologic adjustments in cardiovascular dynamics, which are needed to prevent acute hypotensive episodes or collapse.



Veriloid, a distinctive, biologically assayed hypotensive fraction of Veratrum viride, finds greatest usefulness in the more severe and resistant forms of hypertension. For most patients, from 10 to 12 mg. daily in divided doses, after meals and at bedtime, are adequate, although individualization of dosage is essential for maximum therapeutic efficacy and prevention of reactions.

Veriloid is available on prescription through all pharmacies in 1, 2, and 3 mg. tablets. Literature available on request.

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Cer-O-Cillin *routinely:*

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Cillin

Medicine... Produced with care... Designed for health

$2,000; about 1 out of 4 less than $5,000.

- At the other extreme, 1 out of 8 made over $20,000; 1 out of 15 made $25,000.
- No effort is made to relate income to such significant factors as personality, business acumen, health, ambition and drive, mental aptitude, physical skill, and family connections. However, in several groups, general practitioners under 35 years of age were able to out-earn specialists. Because the specialists invariably pulled ahead financially after 35, the conclusion is that the young man's drive can make up for his smaller fees.
- Like dentists' income, physicians' income rises gradually with the size of the community, but levels off at 100,000 population, then starts to decline. That is the average; the highest paid individuals are in cities of 300,000 to 400,000.

The story in dollars:

Average net income of all physicians throughout the nation in civilian practice, salaried and independent practitioners, $11,058 before taxes; $11,858 for those in independent practice, compared with $8,272 for salaried physicians. Full specialists in independent practice reported net income of $15,014, or 70% more than the $8,835 reported by general practitioners. However, says the report, "the income differential between general practitioners and full specialists has narrowed appreciably since 1929, while at the same time the number of full specialists has increased markedly." Neurologic surgeons topped the profession at $28,628, followed by pathologists at $22,284. Generally, incomes were highest in the far west and lowest in New England.

patients like this inhaler

When you recommend Benzedrex Inhaler you can be certain that your patients will be grateful . . . and will give you complete cooperation between their treatments in your office. Here are reasons why patients accept Benzedrex Inhaler therapy so readily:

1. *Convenient:* Benzedrex Inhaler is easy to carry in pocket or hand-bag and simple to use—at work or at play, at home or away.
2. *Pleasant to use:* Benzedrex Inhaler has a clean, medicinal odor. It is agreeable to even the most sensitive nostrils.
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the best inhaler ever developed

Benzedrex*

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*T.M. Reg. U. S. Pat. Off.

Washington Notes

First doctor-draftee under year-old law is Dr. Stanley J. Orloff of New York City. He reported as a private at Camp Kilmer, N. J., thence was scheduled for reassignment to the Brooks Army Medical Center; Army sources say he may decline a commission, serve out his twenty-four months in the ranks.

Hospitals, like other institutions, can grant employees wage increases without special permission, providing the new total is no more than 10% above that in effect in January 1950. Questions can be clarified through the Salary Stabilization Board, Washington, D.C.

National Security Training Commission must have its program ready for Congress by October 29. Included will be suggestions for caring for health of trainees under the country's first universal military training system.

Survey of ECA and Point 4 public health programs in Southeast Asia is under way by five officials from the Public Health's International Health Division. Three more PHS nurses have been assigned to Saigon and Tehran.

Hospitals' requests for construction steel for the fourth quarter of the year were cut 30%. So far, hospitals have had little trouble getting what they need. They may carry their appeal to Defense Production Administration if this cut is found to be too severe.

Prompt reply was made by more than three-quarters of the governors to Sen. Murray's request for information about physician distribution. Most of them indicated that maldistribution was no problem. Information will be used by Sen. Murray and his Labor and Welfare Committee to decide whether new legislation is needed to [a] increase the supply of physicians, and [b] provide incentive for physicians to move to areas where there is a demonstrated need for their services.

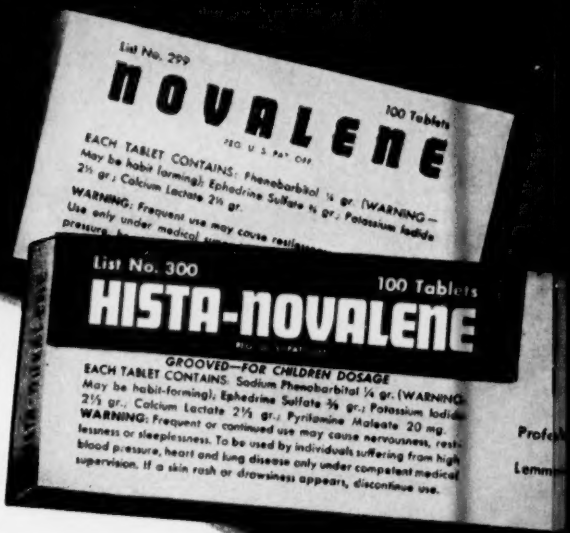
FSA Administrator Oscar Ewing hurried through a stiff staff reduction in his division of publicity and reports rather than wait to have the action forced on him by a Senate subcommittee.

"Ye Gods! I forgot my wife."

Use the *Approach*

to RAPID, PROLONGED Symptomatic Relief and Prophylaxis

of ASTHMA and HAY FEVER



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NOVALENE, with its many *active* ingredients provides not only rapid relief with prolonged effect, but is also remarkable for its valuable prophylactic action.

HISTA-NOVALENE, with added high antihistaminic potency, brings quick relief and protection for those sufferers who require, in addition, effective antihistaminic medication. Check the formulae below . . . and you'll see why we say, "The *correct* approach—prescribe either NOVALENE or HISTA-NOVALENE."

Formulae:		
NOVALENE	Phenobarbital (Warning—May be habit-forming)	¼ gr.
	Ephedrine Sulfate	⅛ gr.
	Potassium Iodide	2½ gr.
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HISTA-NOVALENE	Sodium Phenobarbital (Warning—May be habit-forming)	¼ gr.
	Ephedrine Sulfate	⅛ gr.
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	Calcium Lactate	2½ gr.
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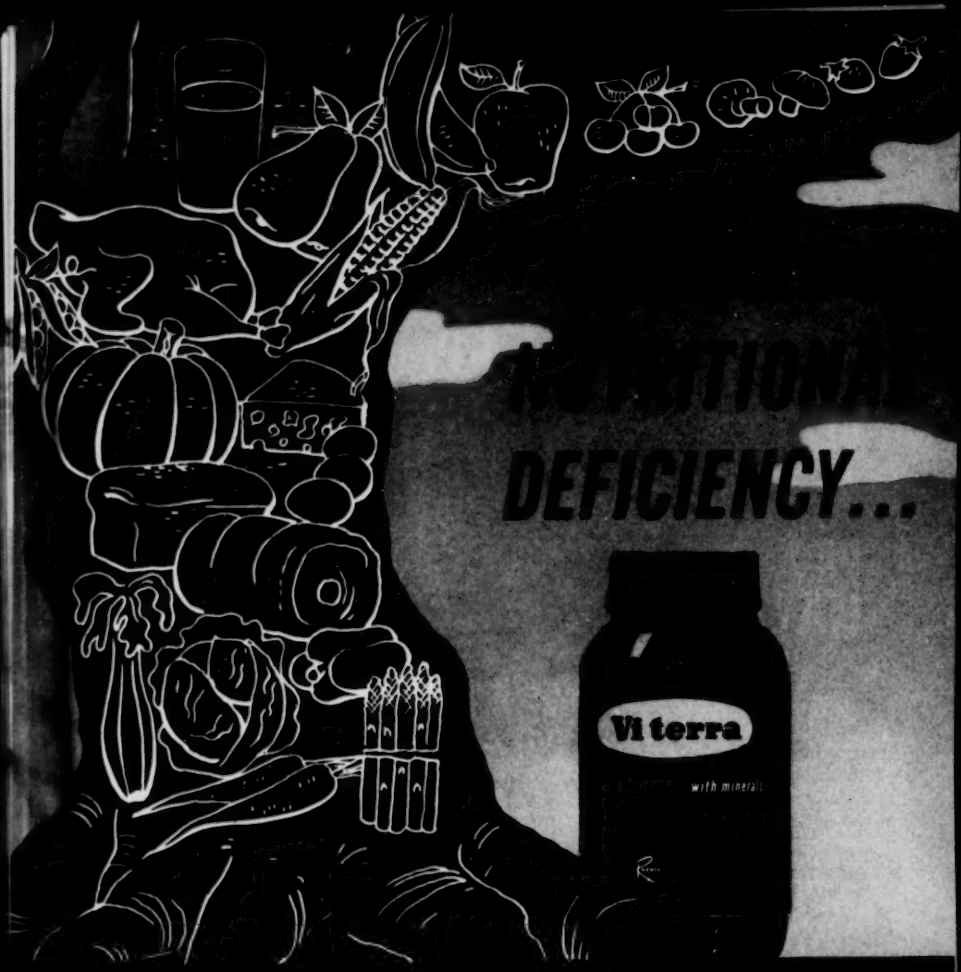
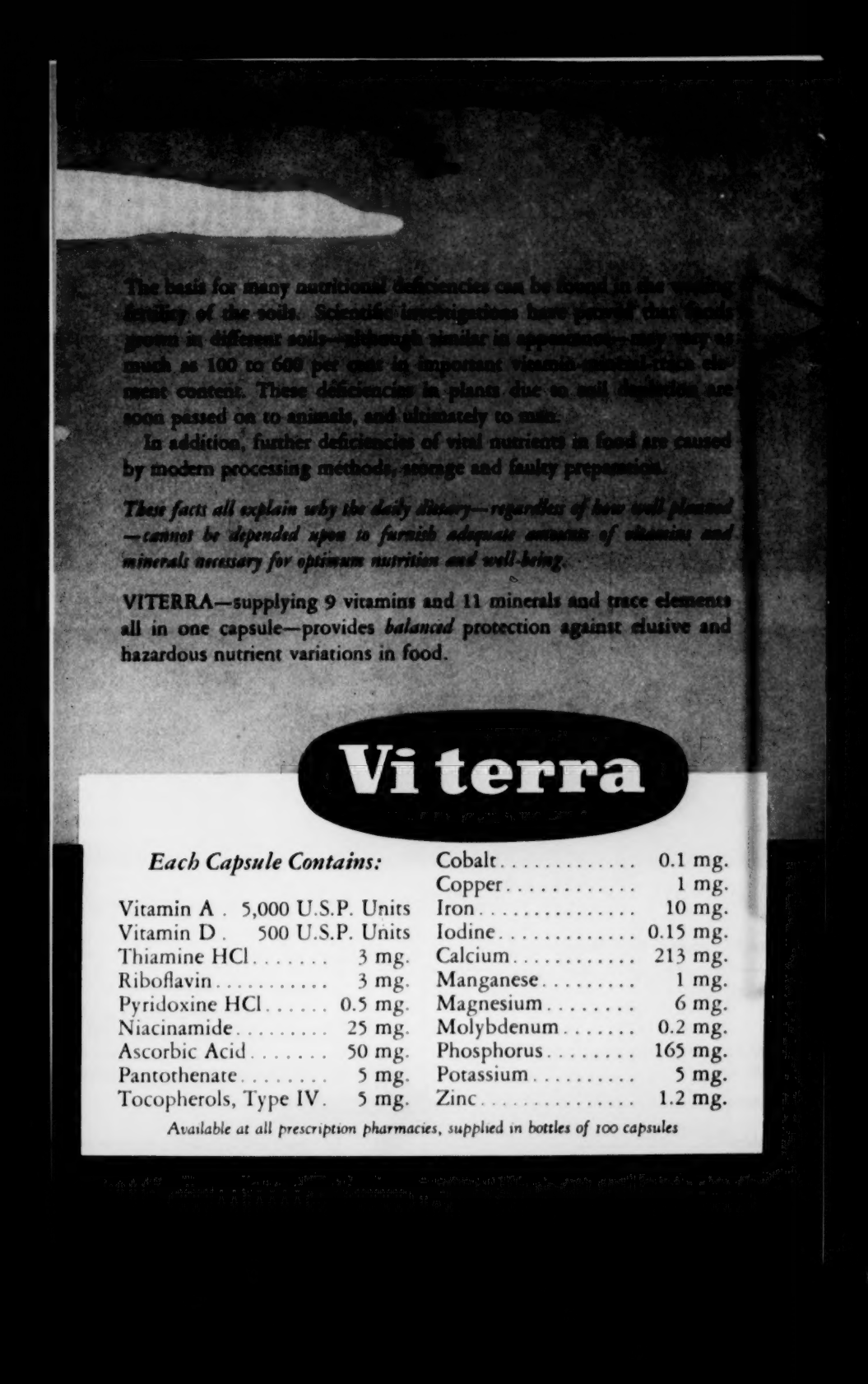

DEFICIENCY...
Vi terra
with minerals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fertility of the soils. Scientific investigations have proved that foods
grown in different soils—although similar in appearance—may vary as
much as 100 to 600 per cent in important vitamin-mineral-trace ele-
ment content. These deficiencies in plants due to soil depletion are
soon passed on to animals, and ultimately to man.
In addition, further deficiencies of vital nutrients in food are caused
by modern processing methods, storage and faulty preparation.
These facts all explain why the daily dietary—regardless of how well planned
—cannot be depended upon to furnish adequate amounts of vitamins and
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VITERRA—supplying 9 vitamins and 11 minerals and trace elements
all in one capsule—provides balanced protection against elusive and
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Each Capsule Contains:
Vitamin A . 5,000 U.S.P. Units
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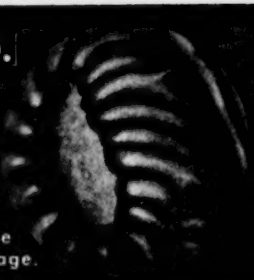
in ulcer therapy the critical test is the test of time

GASTROSCOPIC PROOF OF NO RECURRENCE[1]

The Case of **J. D.**



FIRST GASTROSCOPIC EXAMINATION

Large penetrating ulcer near lesser curvature. Evidence of recent hemorrhage.

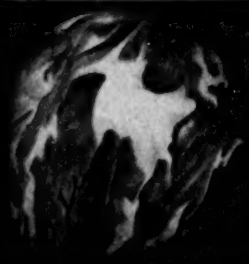
NINE WEEKS LATER

Ulcer healed. Mucosa normal.

TWO YEARS LATER

NO RECURRENCE

GASTROSCOPIC PROOF OF PROTECTIVE COATING[2]



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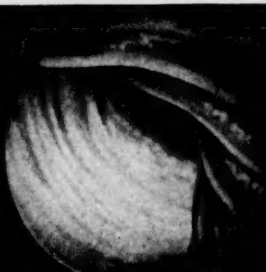
Aluminum hydroxide and magnesium trisilicate; streaking, clumping.



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Aluminum hydroxide and magnesium trisilicate plus gastric mucin; even, protective coating.

Only MUCOTIN® HARROWER gives you MUCIN plus proven antacids

Prove to yourself that Mucotin is better for:

Peptic Ulcer  Gastritis  and Hyperacidity 

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Each tablet contains:

Purified Gastric Mucin..(2½ gr.) 0.16

Dried Aluminum Hydroxide Gel.....(4 gr.) 0.25

Magnesium Trisilicate.....(7 gr.) 0.45

[1] Hardt and Steigmann: *American Journal Digestive Diseases;* June, 1950.

[2] From the film *The Role of Gastroscopy in the Diagnosis and Treatment of Gastric Pathology* by Dr. Leo L. Hardt, Clinical Professor of Medicine, Loyola University Medical School, Chicago.

Current Books & Pamphlets

This catalogue is compiled from all available sources, American and foreign, to insure a complete listing of the month's releases.

Anesthesia

LUMBAR PUNCTURE AND SPINAL ANALGESIA *by* Robert R. MacIntosh. 162 pp., ill. E. & S. Livingstone, Edinburgh. 21s.; Williams & Wilkins Co., Baltimore. $4.50

Cancer

CANCER AS I SEE IT *by* Henry W. Abelmann. 100 pp. Philosophical Library, New York City. $2.75

MALIGNANT DISEASE OF THE FEMALE GENITAL TRACT *by* Stanley Way. 279 pp., ill. J. & A. Churchill, London. 24s.

Therapeutics

CORNELL CONFERENCES ON THERAPY, VOL. IV *edited by* Harry Gold *et al.* 342 pp. Macmillan Co., New York City. $3.50

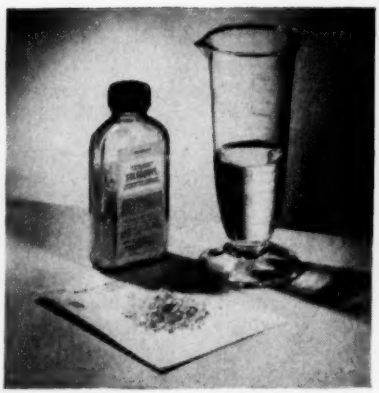
FEVER THERAPY *by* H. Worley Kendell. 101 pp., ill. Charles C Thomas, Springfield, Ill. $2.25

Cardiovascular Disease

HEART DISEASE: ITS DIAGNOSIS AND TREATMENT *by* Emanuel Goldberger. 651 pp. Lea & Febiger, Philadelphia. $10

NEW DOSE FORM

Sulfatryl* Granules Insure Uniform Triple Sulfonamide Suspension

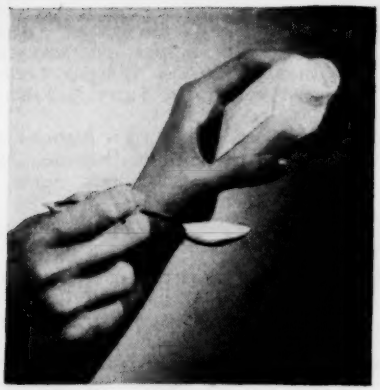


Dry, coral-pink granules of *Sulfatryl* require only addition of distilled water to make uniform, flavored suspension of Meth-Dia-Mer sulfonamides, buffered for addition of penicillin.

Sulfatryl granules contain equal portions of three most effective sulfonamides buffered with sodium citrate. Addition of distilled water quickly makes smooth, absolutely uniform suspension.

UNIFORM COMPOSITION is the problem most commonly encountered with ordinary triple-sulfonamide suspensions. Sulfadiazine, sulfamerazine and sulfamethazine have different densities and may therefore settle out from suspension at different rates. Because of this, failure to shake the dispensing bottle well may result in doses that are inaccurate as well as inadequate. And in many types of sulfonamide "suspensions," moreover, the solids may settle out, become impacted during storage, and virtually impossible to resuspend. *Sulfatryl* granules overcome this basic problem. Each 90-cc. prescription is made up freshly and simply, by addition of 60 cc. of distilled water to 42 Gm. of the coral-pink, dry material, which goes at once into uniform suspension for immediate use.

*TRADEMARK



Sulfatryl granules form a smooth, deliciously flavored suspension of sulfamerazine, sulfadiazine, and sulfamethazine, equal parts, buffered with sodium citrate to minimize hazard of renal obstruction or damage.

Composition of Sulfatryl follows the Meth-Dia-Mer Sulfonamides, N.N.R. (1:1:1 ratio). When 60 cc. of distilled water are added to 42 Gm. of dry granules in the 3-ounce *Sulfatryl* bottle, and the contents are well shaken, each 5-cc. teaspoonful of the resulting suspension (90 cc.) contains 0.5 Gm. of an equal-parts mixture of the three sulfonamides, with sodium citrate as a buffer:

Sulfadiazine	0.167 Gm.
Sulfamerazine	0.167 Gm.
Sulfamethazine . . .	0.167 Gm.
Sodium citrate	0.500 Gm.

Sugar and flavoring agents, q.s.

Advantages of this new dose form are obvious. With *Sulfatryl* an absolutely uniform suspension is insured. Each dispensing bottle contains an accurately weighed quantity of *Sulfatryl* triple-sulfonamide granules to provide a *freshly prepared* suspension for each prescription.

Prescription of Penicillin and Triple Sulfonamides is favored by the *Sulfatryl* formula, which is carefully buffered to protect the antibiotic. To provide 100,000 units of penicillin per 5-cc. teaspoonful (0.5 Gm. of sulfonamide mixture), the antibiotic is dissolved separately in 60 cc. of water and added to the dry granules:

℞

Pot. Penicillin G	1,800,000 units
Sulfatryl Wampole	42 Gm. (1 bottle)
Aqua dist.	60 cc.

M. ft. susp.
Sig.: As directed

Sulfatryl Granules Meth-Dia-Mer (Wampole) are supplied in 3-fluid-ounce bottles containing 42 Gm. of dry material to which is added 60 cc. of distilled water to make 90 cc. of fresh suspension, absolutely uniform in composition. Literature on request. HENRY K. WAMPOLE & CO., INCORPORATED, Philadelphia 23, Pa.

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THE CONTRIBUTION OF SURGERY TO PREVENTIVE MEDICINE *by* Sir James Learmonth. 55 pp. Geoffrey Cumberlege, London. 12*s.* 6*d.*; Oxford University Press, New York City. $2.50.

PLASTIC SURGERY *by* Charles R. McLaughlin. 125 pp. Faber & Faber, London. 12*s.* 6*d.*

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A TEXTBOOK OF MEDICAL CONDITIONS FOR PHYSIOTHERAPISTS *by* Joan E. Cash. 350 pp., ill. Faber & Faber, London. 20*s.*

PROGRESSIVE RESISTANCE EXERCISE: TECHNIC AND MEDICAL APPLICATION *by* Thomas L. De Lorme *and* Arthur L. Watkins. 245 pp., ill. Appleton-Century-Crofts, New York City. $5

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A HISTORY OF NEUROLOGICAL SURGERY *edited by* Arthur Earl Walker. 583 pp., ill. Williams & Wilkins Co., Baltimore. $12

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in acute bacterial endocarditis:

Terramycin therapy was instituted on eleventh day of illness and continued for 53 days in a case of Staphylococcus aureus septicemia with acute mitral endocarditis, complicated by left-sided hemiplegia, which failed to respond to sulfadiazine and penicillin. "Progressive gradual improvement ensued." Patient discharged cured on 59th hospital day with recovery "apparently complete except for a persistent apical systolic murmur and weakness of the left foot."

Blake, F. G.; Frisa, G. J., and Wagner, R. R.: Yale J. Biol. and Med. 22:495 (July) 1950.

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PATIENTS . . . *I Have Met*

The editors will pay $1 for each story published. No contributions will be returned. Send your experiences to the Patients I Have Met Editor, MODERN MEDICINE, 84 South Tenth St., Minneapolis 3, Minn.

Disciplined

My nurse was making out a card for a war veteran who had come in to have an insurance form filled out. When she asked him his name, he replied, "O. D. Smith."

"What is your first name?" she asked. "Miss," said the patient, "I give it to you just like the army give it to me."

—A.B.

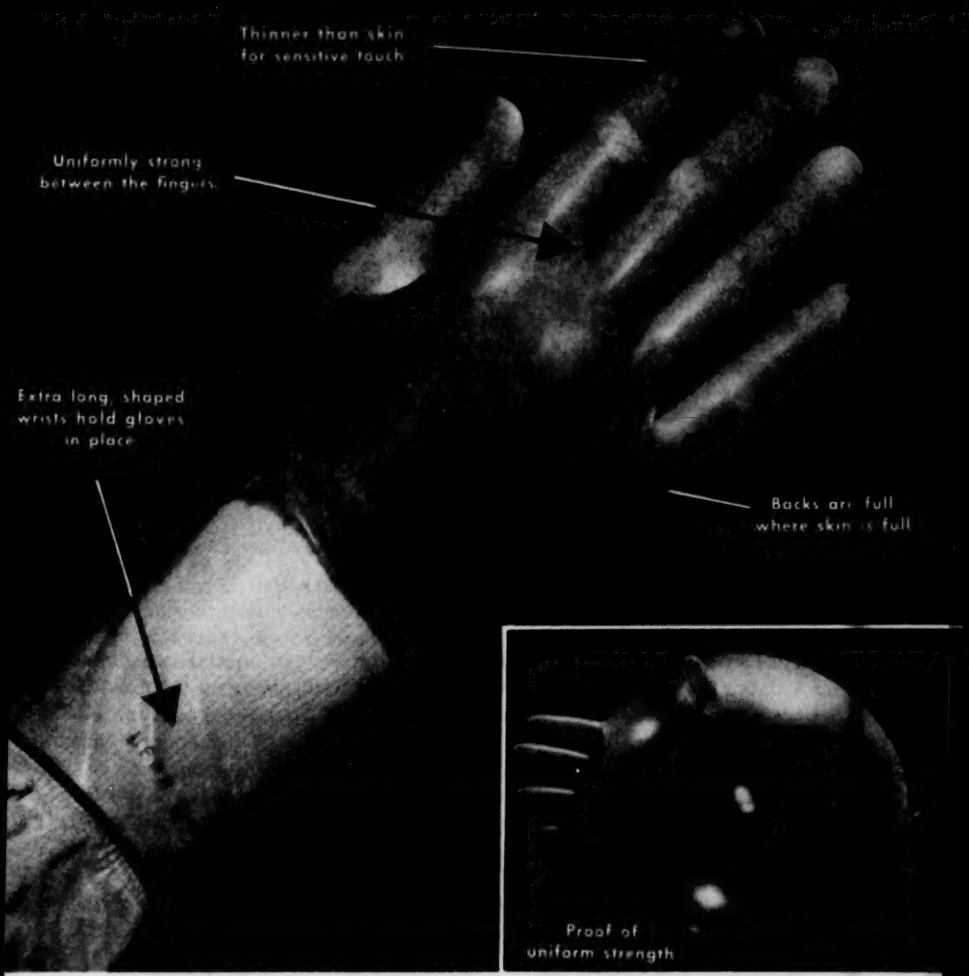
SURE THING

The doctor spoke gravely,
"I'm sorry to say
Your heart, my dear madam,
Is in a bad way."
The lady grew thoughtful,
"What odds will you give?
I'll bet it will last me
As long as I live!"

—M.H.P.

"Cancel my appointment with the doctor. I feel better already!"

B.F.Goodrich



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EVEN the slightest tear in a surgeon's glove can mean the loss of precious time during an operation. To protect your patient, and for your own comfort, specify B. F. Goodrich surgeons' gloves.

These gloves come in several types: smooth surgeons' gloves, (white or brown); "cutinized" surgeons' gloves with a slightly roughened surface, (white or brown); short wrist examining gloves and "Special Purpose" gloves for those who develop an allergic dermatitis when wearing ordinary rubber gloves.

Order B. F. Goodrich gloves from your surgical or hospital supply dealer. *The B. F. Goodrich Company, Sundries Division, Akron, Ohio.*

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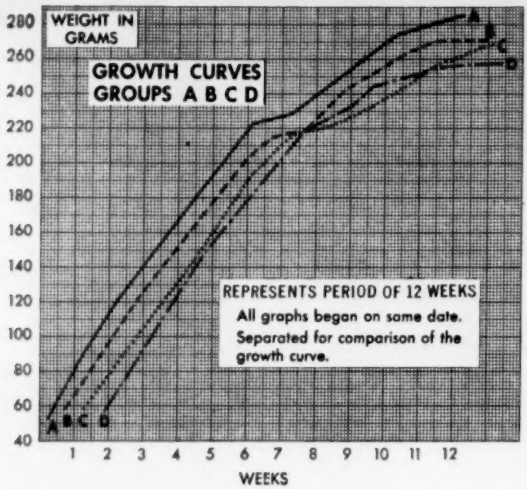
Surgeons' Gloves



RECENT STUDIES CONDUCTED at a leading Eastern animal experimental laboratory[1] tend to show that, as liquid supplements to a balanced diet, sweetened carbonated beverages have no adverse effect on total food intake, including milk.

Four groups of young male albino Wistar rats of similar age and weight were the subjects. For twelve weeks, all were fed an adequate uniform diet of solid food comprising fat, protein and carbohydrate, as well as the necessary mineral salts and accessory vitamins. The only food variable in the tests was the liquid portion of the diet.

Group A was allowed both milk and water; Group B, both milk and carbonated beverages; Group C, carbonated beverages only; Group D, carbonated beverages and water. Unlimited quantities of all liquids were provided. Sweetened carbonated beverages of various flavors were used.

The National Association of the Bottled Soft Drink Industry

[redacted]

¶ During the twelve weeks period, the daily average of standardized solid food consumed per animal was identical in Group A (milk and water) and Group D (carbonated beverages and water), with the solid food consumed by Groups B and C being slightly less.

¶ Total solid foods and liquids consumed were highest for Group C (carbonated beverages only), with Groups D, B, and A following in that order. Total variation between Group C and Group A was only 11 per cent.

¶ Despite free access to milk and flavored sweetened carbonated beverages in Group B, there was no appreciable difference in milk consumed from Group A, which was restricted to milk and water for liquids.

At the end of the tests, physical examination of all animals showed normal results as to growth and weight. Blood studies revealed findings within normal range in all groups. All animals appeared well during the tests and anatomical findings confirmed physical observations.

On the average, a bottle of flavored carbonated beverage contains one hundred calories or less, in a form rapidly absorbed and transformed into food energy. As a guide to sound nutrition, the Food and Nutrition Board of the National Research Council recommends use of the Seven Basic Foods in amounts that leave ample leeway for you to enjoy your favorite soft drink.

[1]*Usona Bio-Chem Labs., Inc., Phila., Pa.*

[redacted]

WASHINGTON 6, D. C.

No Complaint

All but one patient had been admitted to my consultation room. The only person left in the outer office was a small boy. I turned to my receptionist and asked, "Is that her child or the next patient?"

"Neither, Doctor," she replied. "This fellow comes in every week to read the funnies."—M.C.

Sugar Coated

It was an irate husband on the telephone seeking to find out if I actually advised his wife to buy a mink coat and take a vacation in the southern pines.

"Of course, not," I expostulated. Then, on second thought the light broke. "What I told her," I explained, "was to dress warmer and inhale pine oil if she wanted to get rid of her cold."
—O.K.

Revealed at Last

As I was ushering a newly married woman from my consultation room to her husband in the waiting room:

"Well, honey, it's true," she greeted him. "We're going to have a baby. Come on, now, pay the man. What do you think I married you for?"

Her husband grinned. "Looks to me," he said, "like you just found out."
—F.S.M.

"No sir, no appointment. I just have to tell my wife I saw a doctor."

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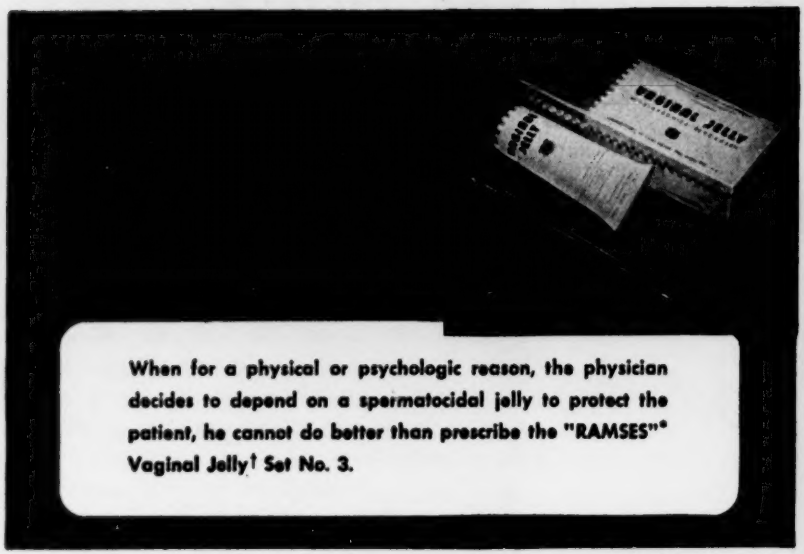

When for a physical or psychologic reason, the physician decides to depend on a spermatocidal jelly to protect the patient, he cannot do better than prescribe the "RAMSES"* Vaginal Jelly† Set No. 3.

Used as directed, the plastic applicator deposits 5 cc. of "RAMSES" Vaginal Jelly over the cervical os.

The cohesive and adherent properties of "RAMSES" Vaginal Jelly are of such high degree that the cervix remains occluded for as long as ten hours after coitus. "RAMSES" Vaginal Jelly, with its adjusted melting point, is not excessively lubricating or liquefying. "RAMSES" Vaginal Jelly exceeds the minimum spermatocidal requirement of the Council on Pharmacy and Chemistry of the American Medical Association.

AVAILABLE in a regular 3-ounce tube and an economy-size 5-ounce tube.

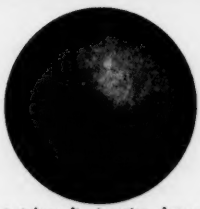

Photo taken after insertion of "RAMSES" Vaginal Jelly. Os occluded.

Photo taken ten hours after coitus. Occlusion still manifest.

Jelly stained with nonspermatocidal concentration of methylene blue for photographic purposes.

gynecological division

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In many instances mild sedation has to be provided before a person of psychoneurotic make-up can achieve emotional stability. Mebaral combines a high degree of sedative effectiveness with a relative freedom from side effects such as languor and drowsiness. Patients usually become calmer, more cheerful and better adjusted to their surroundings without clouding of mental faculties. Average sedative dose: Adults, 32 mg. to 0.1 Gm. (½ to 1½ grains) three or four times daily. Children, 16 to 32 mg. (¼ to ½ grain) three or four times daily. Tablets ½, 1½ and 3 grains.

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